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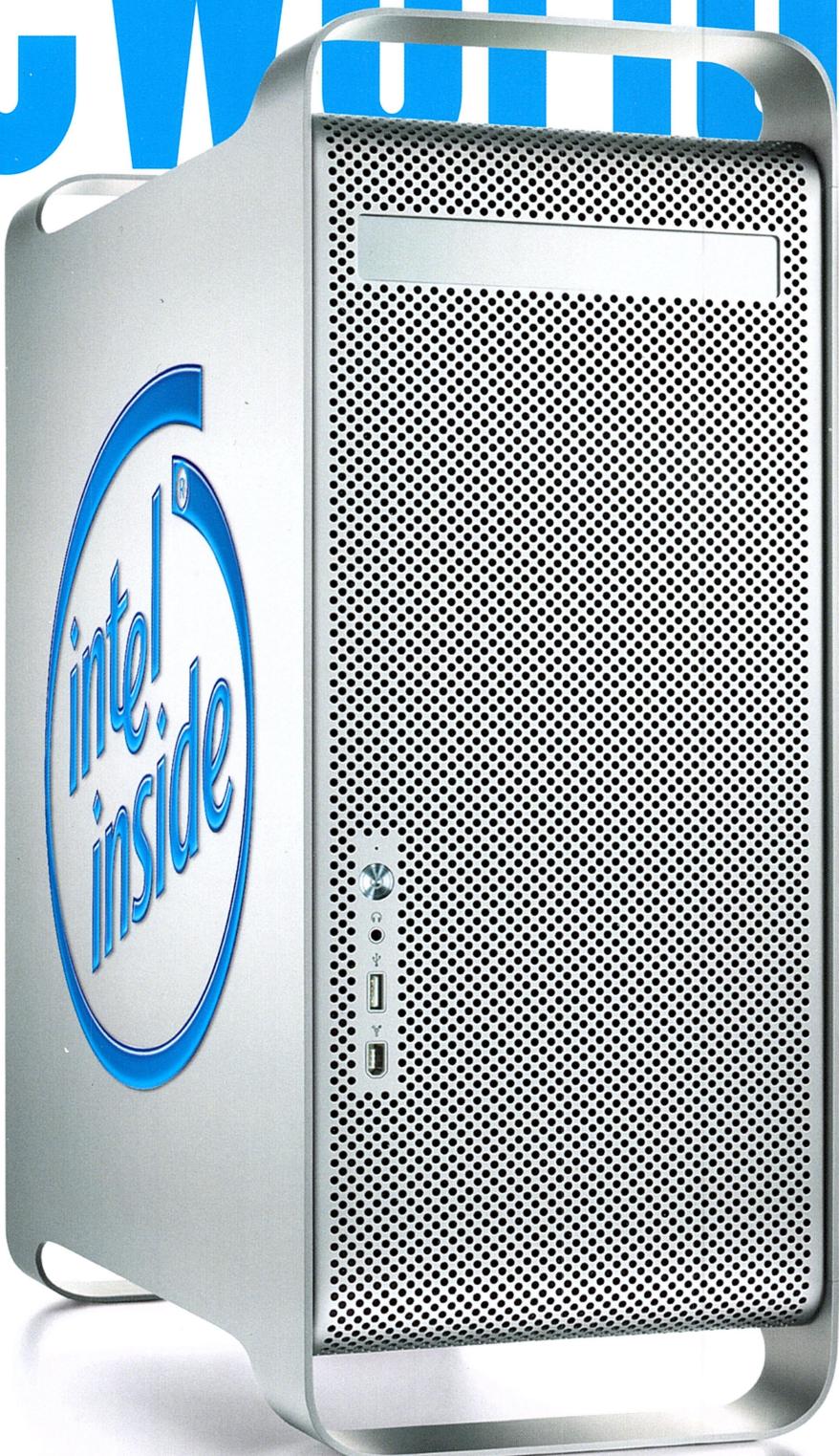
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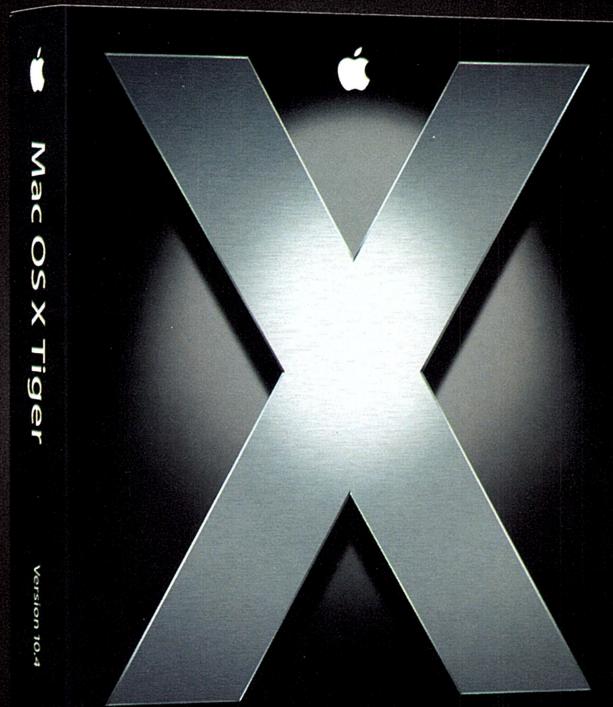


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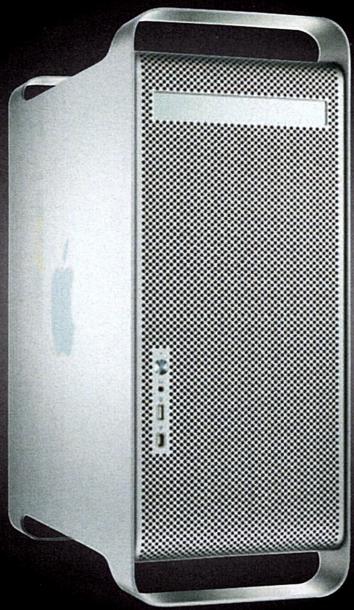
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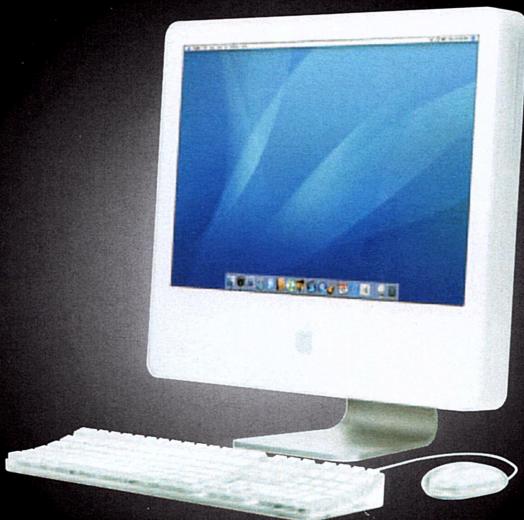
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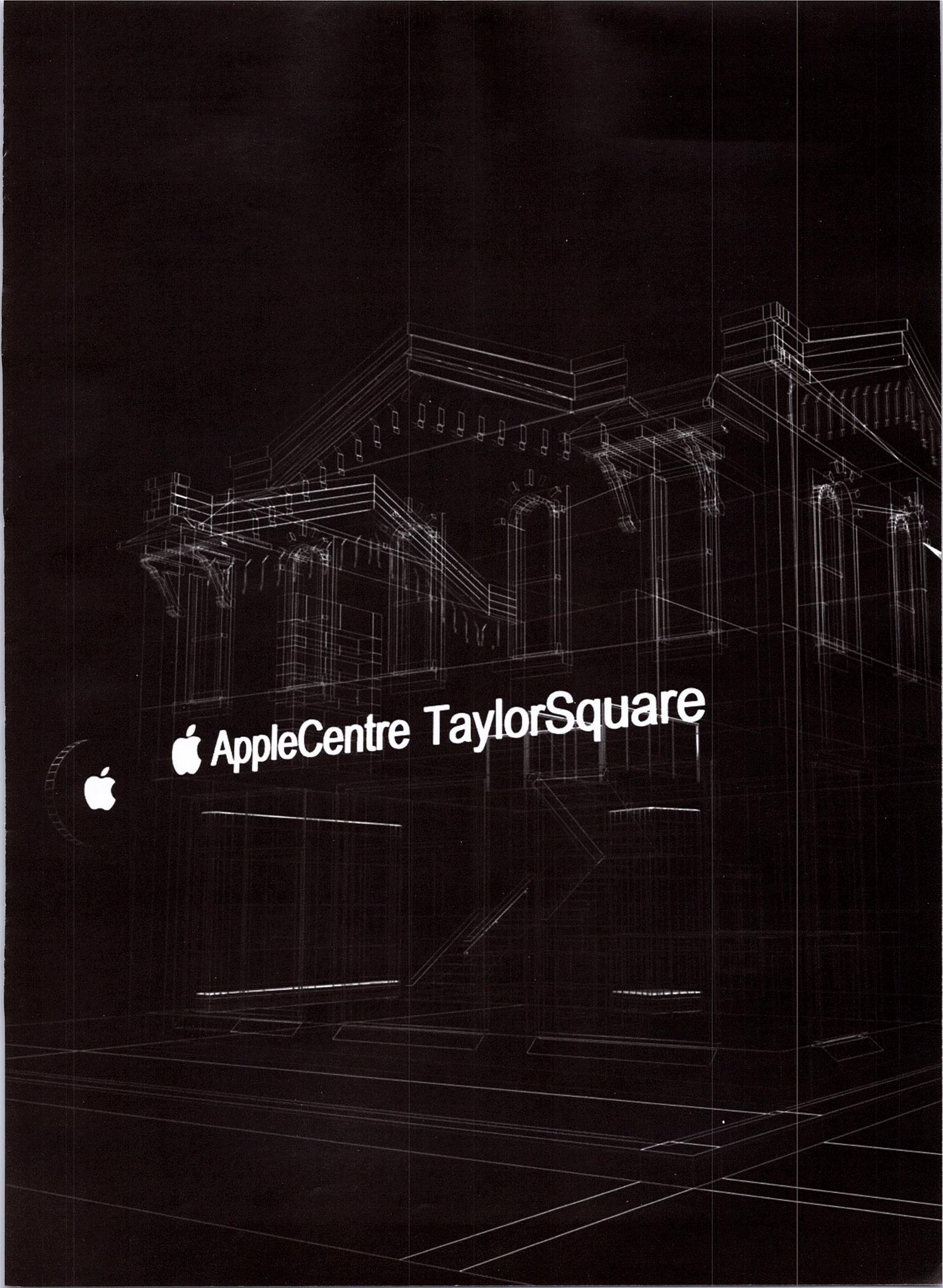
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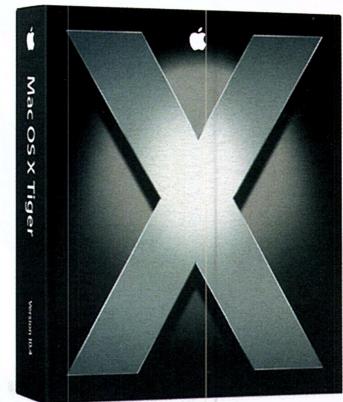
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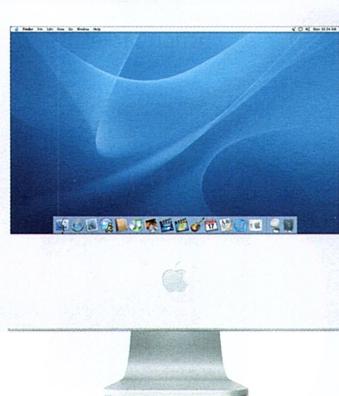
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New iMacs – now include Bluetooth & Airport!

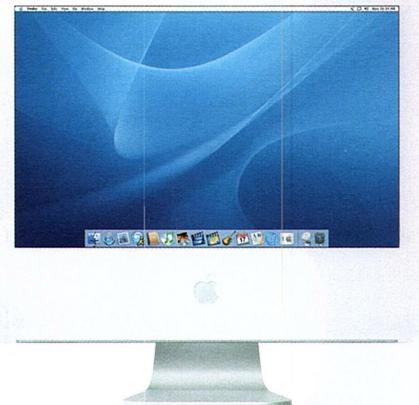
On May 4 Apple announced the NEW G5 iMac family.

The new models come with faster PowerPC G5 processors, 512MB of RAM, built-in AirPort Extreme and Bluetooth wireless connectivity.

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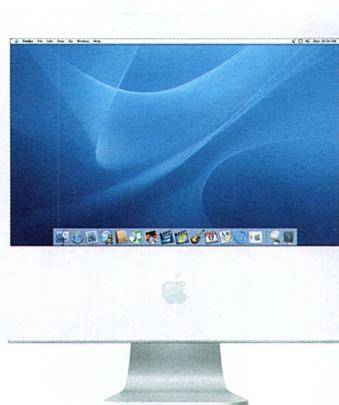


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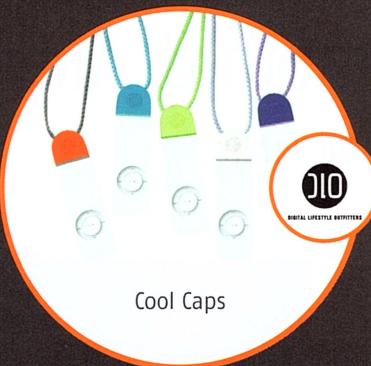
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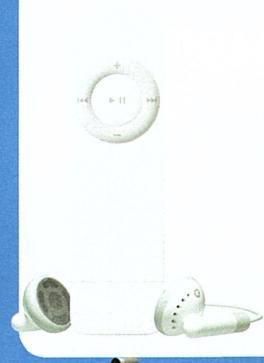
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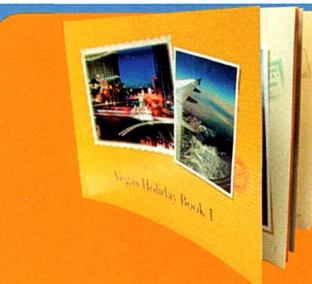
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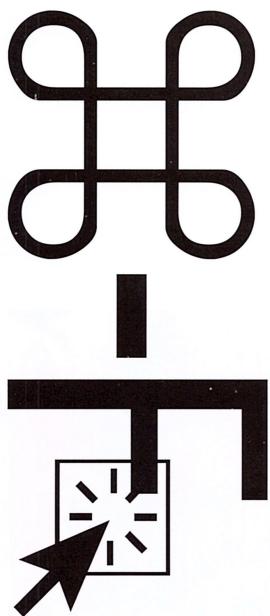
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Focus.

032

Secrets of Mac superheroes

By various authors

Some of the most knowledgeable users we know let us in on a few of the secrets that help them make the most of their time and get the most from their Macs. Now you can learn these secrets too — comprehensive approaches to using applications efficiently.

The Hub.

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iDVD survival guide

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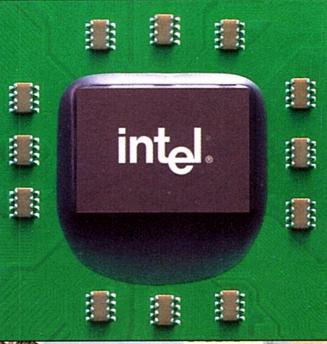
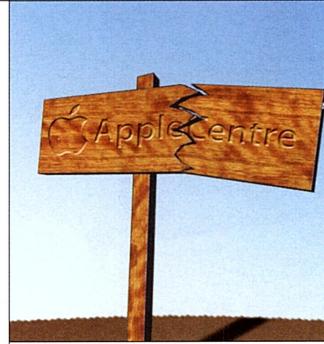
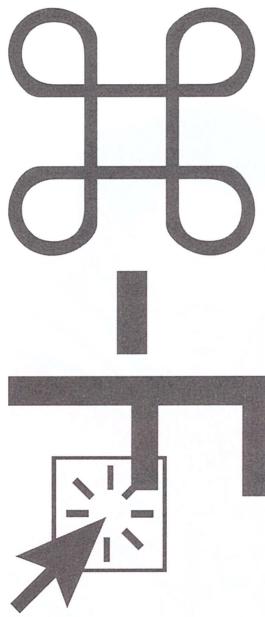
070

Great portraits made easy

Help folder.

072

Tips and queries from our readers



Buzz.

The Intel bombshell

021

In the most significant announcement about Apples since Sir Isaac Newton, Steve Jobs used the World Wide Developers' Conference keynote to confirm that the company's entire computer range is moving to Intel chips over the next two years. What does this mean for users? What about developers? What is a Pentium anyway?

All these questions and more answered (to the best of our ability) in this Buzz special report.

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Pegasus 410GT



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Canvas X



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New features benefit collaborative workgroups

Shake 3.5



084 Fine control, difficult learning curve

17-inch 1.8GHz iMac G5



17-inch 2.0GHz iMac G5



20-inch 2.0GHz iMac G5



iMac G5 series

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Welcome improvements across the consumer line

PhotoPrinto 1.2



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Turns your digital photos into printable memories

StickyBrain 3.4



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Puts data at your fingertips

Drive Genius 1.0.1



090

Partitions without reformatting

GuestPC 1.2



091

Lags in performance, but is still a bargain

NoteTaker 1.9.4



092

Java support adds power



Don't miss the upcoming Macromedia online, live seminars on web video, content authoring, and Breeze for higher education.



Five Steps to Web Video with Flash MX Professional Online Seminar

Flash video is used on many sites today, from home use through to major news portals like CNET and entertainment/movie sites like Batman Begins.

In this session you will learn the benefits of Flash video compared to other video technologies, and when to use progress download video and when to use streaming video. We will show you the five steps to adding Flash video to your website.

The session is hosted by Brian Chau from Macromedia and Brian will share some relatively simple steps as well as some great tips and examples of video on the web using Flash.

Who Should Attend?

This session is for developers and designers with at least intermediate skills.

This session is **repeated nine time through the week at 8:00Am, 12:00Pm and 6:00Pm Australian Eastern time** on the following days:

- **Monday 11 July**
- **Wednesday 13 July**
- **Friday 15 July**

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12:30pm - 1:30pm Australia/Eastern

Thursday, 14 July, 2005

5:00Pm - 4:00pm Australia/Eastern

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From the Macintosh scene to the magazine.

By Matthew JC. Powell



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Code warriors

Turn and face the strange

Now that's what I call a bombshell. In one of the more fortuitously-timed corporate announcements in history, Steve Jobs used the anniversary of D-Day to announce that Intel, a long-time target of Apple's derision and half of its main enemy – the so-called "Wintel Duopoly" – would soon be making the processors inside Macs.

In hindsight, it all makes perfectly good sense. Back in 1997, when developers were first introduced to Apple's next-generation OS in the form of "Prelude to Rhapsody" kits distributed at that year's WWDC, they needed an Intel machine to run them on. The OS was based on NextStep/OpenStep, the OS that Steve Jobs's NeXT Cubes ran – and they were Intel boxes.

The two years between Prelude to Rhapsody and the Mac OS X Public Beta were spent porting Apple's operating system *from* Intel *to* PowerPC. Given that, it makes perfect sense that Apple would, under cover of considerable secrecy, continue to maintain an Intel build of OS X – just in case. Given that, it makes perfectly good sense that, when IBM failed to deliver products as scheduled, and when its forward plans started to look more doubtful, Apple would make the switch as quickly and as painlessly as possible. It all seems so reasonable now.

Hindsight is like that.

Of course, for the conspiracy theorists, it was a bonanza. For years people have been speculating and theorising about Apple's imminent move to Intel, and they've been consistently dismissed as crackpots. For them, Steve's announcement was the equivalent of President Cheney admitting that, indeed, a UFO did crash in Roswell, New Mexico, and the US government has kept the wreckage on the same secret Air Force base where they faked the moon landings.

Since the announcement, these same former crackpots – now known as "pundits" – have been emboldened to put forth a range of new theories. Everything from "this will destroy Microsoft" to "Intel is planning to buy Apple". The speculation has been running hotter and wilder than at any other time in Apple's history, but why not? They were right once.

I'll go on record now as admitting I didn't see it coming. I'm now trying to get my head around the various implications for me, for my readers, for Apple, for the industry. I haven't got there yet, but I know this one thing:

No-one knows anything.

An awful lot of speculation is being published on this subject, much of it contradictory and little of it credible. The fact is that very few specifics are known at this stage by anyone outside a limited circle at Apple and Intel – and they're not talking.

In *AMW* I'm going to avoid, if I can, speculating. I want you to know the facts, as well as I can sort them. I want *AMW* readers to be as well-informed as possible and to understand the coming transition without clouding the issue with wild guesses. That's why the Buzz section this issue has been given over entirely to analysis of the announcement. Unless clearly stated otherwise, everything you read in Buzz is a fact.

One more thing. I did want to venture an opinion on one aspect of this. Under a slide called "Transitions," Jobs discussed the two major shifts the Mac platform had undergone since 1984: The shift to PowerPC, and the shift to OS X.

In discussing the PowerPC transition, he admitted that he hadn't been at the company at the time, but "Apple did a great job". There was a snicker from the crowd. I snickered myself.

The fact is, Apple rather messed up the transition to PowerPC, both in hardware and software. The last bunch of 68K-based Macs, which were sold as "PowerPC-ready", were in fact nothing of the sort, and the first batch of PowerPC Macs had no software to run on them natively. It was years before Apple had a PowerPC version of the Finder – you can imagine how confusing it was for the developers.

Into the fray came a company called Metrowerks, with its Codewarrior development environment. It provided tools to help other developers get their code PowerPC-native as well as possible (there were still hardware limitations that stopped things working, no matter how well they were coded).

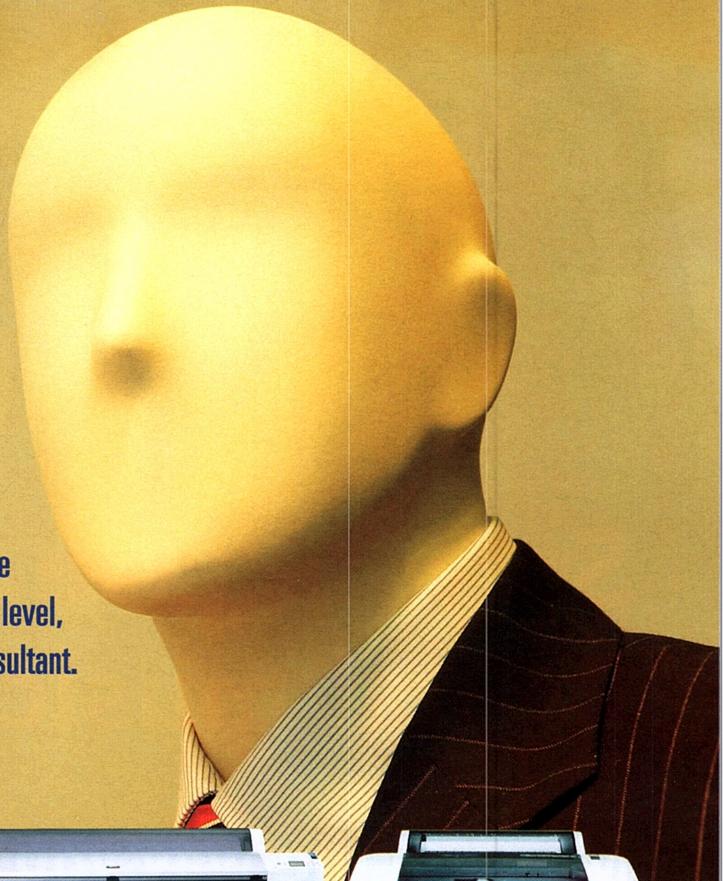
In short, back in 1994-1995, Metrowerks saved Apple's business. Literally. There would be no Mac now if it hadn't been for Metrowerks then. Likewise, when the time came to move to OS X, and the complex maze of Classic APIs had to be simplified into Carbon and Cocoa, Metrowerks came to the party and provided the tools to help developers get there. While not as dramatic a rescue it was certainly a friend in need.

So I'm a little miffed at Jobs telling developers who are still using Codewarrior that they now must shift to Xcode, Apple's own development tool, for the transition to Intel. Metrowerks isn't a small developer, like the guys who wrote Watson or Konfabulator. It's been a major and vital player, responsible for saving the platform at least once.

A little gratitude would have been nice. ☺

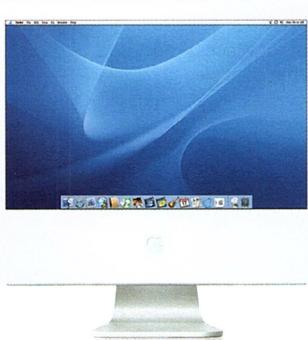
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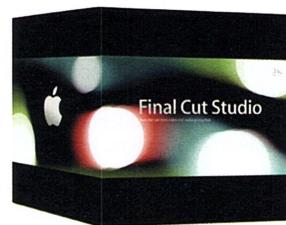
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Each issue Conexus (02 9975 2799) gives a Sonnet PodFreq mini to the Australian Macworld reader who sends in the most interesting or provocative letter.

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Correction. The PodFreq mini was supposed to have been introduced as Letter of the month prize last issue, but a gremlin in the system meant that the wrong prize information was given. Prize winner Desmond Yip will receive a PodFreq mini, and not Mentor headphones as published. ☺



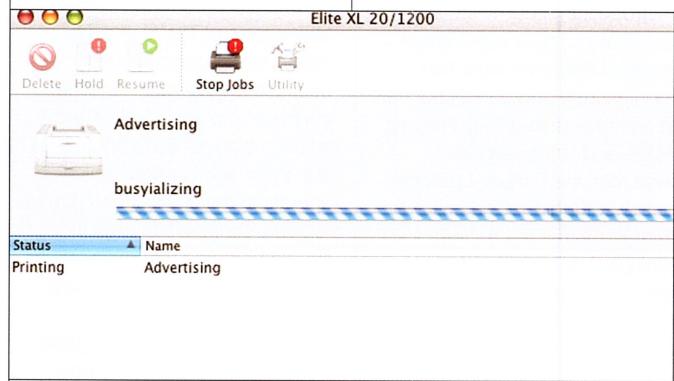
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www.hardmac.com/niouzcontenu.php?date=2005-05-25#4086
Firmware update for Pioneer DVD burners

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Letters should be e-mailed to matthew.powell@niche.com.au with a subject header of "Mailbox" or by post to Australian Macworld Mailbox, 3/165 Fitzroy Street, St Kilda, Victoria 3182. Letters of fewer than 200 words are given preference. We reserve the right to edit letters and probably will. To be eligible for the PodFreq mini prize, you must include your full name and address, including state or territory.



Drive driver

In a recent Australian Macworld there was a review of dual layer DVD burners, including the Pioneer DVD-RW DVR-109, which was cited as the same drive as used by Apple.

Well it is and it isn't. I purchased one (from a white box PC dealer) and installed it in an external USB 2.0 case, connecting it to my G4/733 via a PCI card. Reading and writing CDs worked out of the box, as did reading DVDs, but burning single layer DVDs using Toast v6.0.9 always failed, returning the following error: "Sense key = Hardware Error, Sense Code = 0x44, Internal Target Failure".

I rang Pioneer. Their help desk person told me Pioneer does not support this drive on the Mac platform, but suggested a firmware update would solve the problem. To Google, where I discovered a helpful Mac person has created a installer for the firmware update (see "Hot links").

Richard Sara
via internet

Thanks for that, Richard. Anyone who has trouble after following this month's tutorial on adding a SuperDrive to an eMac should follow that link. — M.J.C.P.

Incentivation

I had this dialogue box come up the other day (above), which I thought looked strange and somewhat amusing. Is it a new Mac language?

Warwick Pearson
North Ryde, NSW

Weathering the storm

As a long-time user of Macs, I still like to boast their superiority to Windoze users. Unfortunately a colleague had the upper hand when, after recently installing Tiger, I was only able to tell him the weather forecast in Melbourne, Florida on my Dashboard. And don't get me started on legally downloading music on a Mac in Australia — if Apple Australia doesn't get its act together soon, I'll be thinking twice next

time my computer is due for upgrading.

Daryl McKenzie
via internet

Your first problem is easy fixed, Daryl: rather than just entering "Melbourne," type "Melbourne, Victoria" into the Dashboard widget, and Robert is your mother's brother. We'll be doing a round-up of some Australian-developed Dashboard widgets in an upcoming issue, so if there's a better weather one by then we'll let you know.

Your second problem is harder to fix. You see, the legal music downloading market in Australia is not noticeably better for Windows users than it is for Macs. They're waiting for the iTunes Music Store as eagerly as we are. Here's hoping it comes soon. — M.J.C.P.

Terms and Conditions. Mentor letter of the month 1. Instructions on how to enter form part of these conditions of entry. 2. To enter send tips or queries to matthew.powell@niche.com.au with a subject header of "Mailbox". Entries will be judged by the editorial staff of Australian Macworld. The judges' decision in relation to any aspect of the competition is final and binding on every person who enters. No correspondence will be entered into. Chance plays no part in determining the winner(s). Each entry will be individually judged based on its degree of interest. 4. Employees, their immediate families and agencies associated with this competition are not permitted to enter. 5. The Promoter accepts no responsibility for late or misdirected entries. 6. The best entry/entries as determined by the judges will win the prize(s). 7. The Promoter is neither responsible nor liable for any change in the value of the prize occurring between the publish date and the date the prize(s) is claimed. 8. The prize(s) is not transferable and will not be exchanged for cash. 9. The winner(s) will be notified by mail. 10. All entries become the property of the Promoter. 11. The collection, use and disclosure of personal information provided in connection with this competition is governed by the Privacy Notice. 12. The Promoter is Niche Media Pty Ltd of Level 3 / 165 Fitzroy Street ST KILDA VIC 3182 Ph 03 9525 5566. (ABN 13 064 613 529).

Heart of the country 1

I note more letters about Optusnet broadband and its "non-support" for Mac users. I also note your consistent advice to forget Optus and choose another ISP.

Unfortunately it's not as easy as that if you live outside a metropolitan area. There are complaints about some small regional ISPs who want two months' rent and connection fee in advance before they test that ADSL and line quality are available, then retain 4 percent before refunding. One has only to read the forums on the Whirlpool web site (see "Hot links") to realise how difficult it is to choose a broadband ISP that is a) technically competent, b) good value and c) durable.

I am about to switch from my Telstra telco and Austarnet ISP to take up the Optusnet broadband offer which, I can assure you, meets the three criteria above better than anyone else.

Unlike some of your other correspondents, Optus sales tell me they don't "support" Mac but that their service does work with Macs! They assure me they will soon be supporting Macs, perhaps within a month or two — but I take this with a grain of salt.

Geoffrey Luck
Mittagong, NSW

I'm glad you've had a better experience than some other readers, and I hope that Optus is true to its word in improving the level of Mac support it offers. — M.J.C.P.

Heart of the country 2

It was great to see your feature on wireless broadband in the May edition of The Hub. Like many I chose to go wireless because the pair-gain landline could not provide ADSL. The article mainly focused on WISPs like iBurst and Unwired which operate in major cities and major regional centres, although it should be noted that many of us folk in regional areas rely solely on the Telstra CDMA network.

I was fortunate to get a good deal about three months ago from Telstra Mobile Broadband, which included a Maxon Minimax broadband modem.

The article states many WISPs only support PC users. I must say Maxon went out of their way to configure the device for my iMac and have recently developed a driver for OS X.

Many letters address the lack of support in the wider community for Mac, but I feel the Mac community should also praise those businesses that go out of their way to assist. For Maxon, at the time, I was their only Mac customer!

David Bailey
via internet

We'll be doing more coverage of wireless broadband in future issues, including a review of the Maxon MiniMax next issue.

— M.J.C.P.

Corrections

For several issues, we've run the incorrect URL on the Off the net column. Dan's shareware and freeware selections can be found in the AusMac archive at www.ausmac.net. Thanks to the many readers who wrote in to inform us of the oversight — it's nice to know you're paying attention.

Just a minor historical note: in her guest Commentary, Rosanne Bersten said she'd given me my first AMW commission, for a review of the Beatles' *A Hard Day's Night* CD-ROM. She did indeed commission me to do that review, but it wasn't the first. My first AMW commission (also from Rosanne) was for a product called the ColorBlaster LC, which gave a Mac LC II the awesome colour capabilities of a Mac LC III.

Ah, nostalgia. — M.J.C.P.



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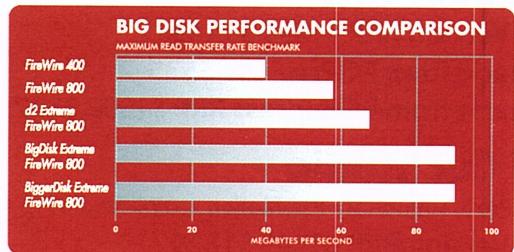
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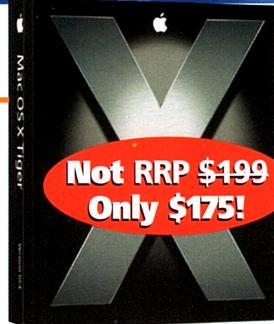
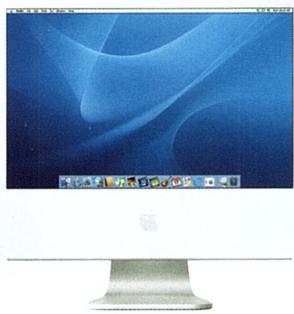
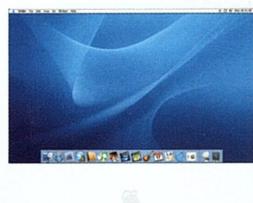
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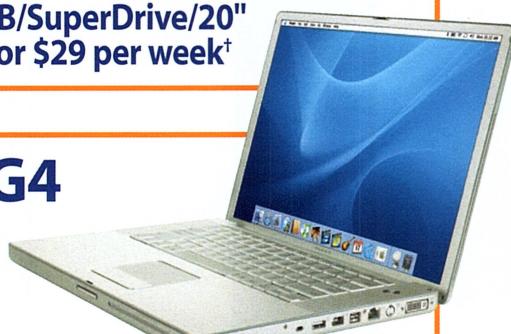
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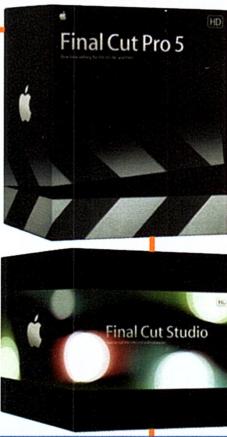
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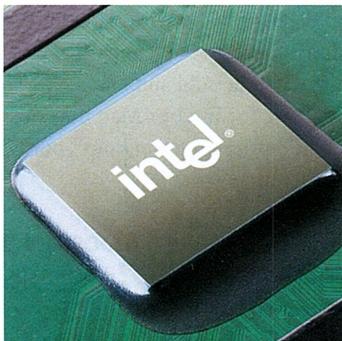
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Apple drops PowerPC for Intel chips

At its Worldwide Developer Conference (WWDC) in June, Apple announced plans to begin delivering models of its Macintosh computers using Intel microprocessors by June 2006, and to transition all of its Macs to using Intel microprocessors by the end of 2007. Apple previewed a Mac OS X Tiger system running on an Intel-based Mac to the audience of developers attending Steve Jobs's keynote address.

The move marks a major shift for Apple, which has long relied on PowerPC chips from IBM and Motorola (later Freescale) to drive its computers. To help with the switch, Apple also announced the availability of a Developer Transition Kit, consisting of an Intel-based Mac development system along with preview versions of Apple's software, which will allow



developers to prepare versions of their applications which will run on both PowerPC and Intel-based Macs.

"Our goal is to provide our customers with the best personal computers in the world, and looking ahead Intel has the strongest processor roadmap by far," said Jobs. "It's been ten years since our transition to the PowerPC, and we think Intel's technology will help us create the best personal computers for the next ten years."

"We are thrilled to have the world's most innovative personal computer company as a customer," said Paul Otellini, president and CEO of Intel. "Apple helped found the PC industry and throughout the years has been known for fresh ideas and new approaches. We look forward to providing advanced chip technologies, and to collaborating on new initiatives, to help Apple continue to deliver innovative products for years to come."

Third party developers, including Microsoft, announced support of the transition following Jobs's announcement. "We plan to create future versions of Microsoft Office for the Mac that support both PowerPC and Intel processors," said Roz Ho, general manager of Microsoft's Macintosh Business Unit.

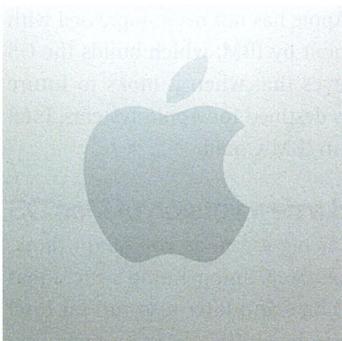
"We think this is a really smart move on Apple's part and plan to create future versions of our Creative Suite for Macintosh that support both PowerPC and Intel processors," said Bruce Chizen, CEO of Adobe.

Intel plans to provide industry leading development tools support for Apple later this year, including the Intel C/C++ Compiler for Apple, Intel Fortran Compiler for Apple, Intel Math Kernel Libraries for Apple and Intel Integrated Performance Primitives for Apple.

As of press time, neither company had given specific information about which specific Intel platform the future Macs would run on, or even if it would be part of one of Intel's current product lines. Apple also did not indicate whether the first Intel-based Macs would be desktop computers, servers or notebooks (though Jobs cited IBM's failure to provide a version of the G5 chip for PowerBooks as one of the reasons for the switch).

Jobs did emphasise, though, that Apple would continue to release machines based on PowerPC processors between now and next year when the transition begins in earnest.

• Matthew Honan



■ FAQ



Hot Links

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Write to me if you have any questions about the transition

Apple & Intel: What you need to know

Apple's startling announcement that it will begin a transition away from PowerPC chips to Intel-made processors has left Mac fans' heads spinning, and not just because a former "enemy" of the Mac is now counted among its allies. Many details about the transition are unclear or flat-out missing – after all, Apple said it won't be shipping any Intel-based Macs until next year. And let's be honest – computer chips are not exactly the simplest topic under the sun.

To help you sort out this situation, here's what you need to know about the Apple-Intel announcement, in the form of frequently-asked questions. These are not guesses – to the best of our knowledge at press time, these are the facts.

Why did Apple announce this so early?

Developers of Mac software – the very people Jobs was addressing – will need time to ensure that their programs will work on Intel-based Macs. Now that developers have those tools the chances are good that numerous Intel-ready programs will be ready before Intel-based Macs actually arrive.

Why did Apple do this? Jobs said the company made this decision because it wants "to be making the best computer for our customers, looking forward". He cited his 2003 announcement to ship a 3GHz G5 by mid-2004, a promise that is still unfulfilled. He mentioned that Apple has also failed to deliver a G5-based PowerBook. Clearly, Apple has not been impressed with the pace of processor development by IBM, which builds the G5 chip. As Jobs said, Apple believes that when it looks to future processor development for chips destined for Apple systems, Intel would progress much faster than IBM would.

Does Apple have to build a new version of Mac OS X for Intel? Yes, but it's not as big a deal as you might think. OS X originated as NextStep/OpenStep, an operating system that originated on Motorola-based chips and later also ran on Intel chips. So OS X has, from the very beginning, been an operating



system capable of running on different chips. As Jobs admitted, Apple's created an Intel version of every version of Mac OS X, just in case it needed to make the switch someday.

What will happen to my current software if I buy an Intel-based system? Apple has announced a new technology, Rosetta, which will run PowerPC Mac programs on Intel-based Macs. However, according to Apple's own technical documentation, Rosetta does not support Classic apps, nor does it support apps that require the G4 and G5 processors.

Rosetta works by translating code meant to run on a PowerPC chip into code that is compatible with Intel processors. If you recall running 680x0 code (say, Microsoft Word 5.1) on a Power Mac back in the mid-90s, you know what this means: programs run slower when they're not running on their native processors.

(Rosetta does not work the same way Classic does, however. Classic actually runs software within an entirely separate and additional operating system (Mac OS 9) designed for the same PowerPC chip found on your PowerPC-based Mac. Rosetta runs programs that are native to Mac OS X – but translates the PowerPC chip instructions into Intel-compatible ones.)

By the time the first Intel-based Macs appear, many of the programs you use will have been updated to new versions that also support the Intel architecture. You'll be able to tell which processor type a program supports by selecting it in the Finder and choosing Get Info. In the More Info selection of the Get Info window, you'll see an Architecture: line that will list Intel, PowerPC, or both. (There's also an "Open using Rosetta" checkbox that might be useful in certain oddball situations, much as "Open using Classic" is today.)

Will I have to buy new versions of my software specifically to run on an Intel-based Mac? As with the PowerPC and OS X transitions, there's no single answer. Different developers will handle things differently. One company might offer an Intel-compatible version as a free upgrade; another might build it into their next major release and charge you for the privilege.

Because of Apple's "Universal Binary" approach, developers can deliver a single program that contains within it both Intel and PowerPC versions of their software. You won't have Intel apps and PowerPC apps floating around, and future Mac software will be sold simply as Mac software, not specifying whether it's Mac for Intel or Mac for PowerPC – you'll install it, double-click on the program, and your computer will use the right code for its processor.

Will Intel-based Macs get viruses and spyware like Intel-based PCs? Essentially, no. The viruses and spyware you hear about on Windows are just that – attacks on the Windows operating system, which happens to run on Intel (and

AMD) processors. This is not to say that a Mac couldn't get viruses and spyware, but that's true today, too. The Mac is free from viruses and spyware because it's more secure than Windows and because it's a much less common system than Windows.

Does this mean my Mac is obsolete? No. Current and future Macs based on PowerPC chips will not suddenly become obsolete when Apple switches to Intel. Your Mac will eventually become obsolete, but that will only happen when there is an application or a version of OS X that you want to run, but your Mac can't handle it. Until that day comes, your Mac will be as useful as the day you bought it.

Should I not buy any new Macs until the Intel-based Macs arrive? It depends on what your needs are and what your current Macs are. Over the next year, Apple's going to be coming out with numerous advancements on existing PowerPC-based Mac models. Keep in mind, according to Apple the PowerPC won't be completely eradicated from the company's product line until late 2007. If you've got an aging Mac system, do you want to wait until 2007 to get a new one? If you bought a new Mac today, you could be pretty confident that it would serve you well for several years and probably wouldn't become obsolete any faster than it would normally, given the march of time.

Then again, if you're comfortable with the Mac systems you've got now, and don't feel the need to buy a Mac for a while, waiting until Apple crosses the next barrier might be a good idea.

Should I be first in line to buy an Intel-based Mac? Do you like living on the edge? When those first Intel-based Macs come out, they may not be without their quirks. More certainly, if at that point most of the programs you run don't currently exist in Intel versions, a faster Mac might actually seem slower to you. This is the effect many Mac users noticed when moving from a Quadra to a Power Mac in the early days of that transition: because most of the programs they used were emulated, the "faster" Macs were actually slower in everyday use.

How will the Intel machines measure up to the PowerPC Macs in performance? We simply don't know yet. Also, keep in mind that since Apple's not going to ship any Intel-based Macs until 2006, the Intel chips that are available today on PCs are not necessarily the chip models, speeds, or even families that will make their way into Apple's Intel-based systems.

Does this mean Apple's abandoning its commitment to a 64-bit architecture? We don't have any specifics yet, but it seems highly unlikely to us that Apple would turn its back on 64-bit chips. Intel offers 64-bit chips and it's almost impossible to conceive that Apple would move backward in this area.

Could this lead to cheaper Macs? It's possible, depending on what system parts Apple buys from Intel and what they cost. Keep in mind, Apple's not making a cheap clone PC. Apple, unlike Dell or Acer or any of the cheap clone makers, develops its own operating system, and that costs money.

Will any PC be able to run Mac OS X for Intel? Apple says no. It's likely that some enterprising hacker may be able to get it to work, but we'd expect that if anyone can get OS X to run on PC hardware, it will be a laborious process, and the end result may not be a particularly stable system. You certainly won't be able to go out, buy OS X, stick the install DVD in a Dell PC, and have it just work.

Will my Intel-based Mac be able to run Windows?

It seems likely, although Apple won't support it. Someone will probably figure a way to install Windows on a Mac system so that you can choose to boot into either OS X or Windows. In addition, consider a future version of Virtual PC that lets you run PC applications at full speed, on a window within your Mac (or on a second monitor). There are some intriguing possibilities here for Mac users who must use Windows applications some of the time.

Whatever happened to the megahertz myth? It's still true — you can't compare different chip types solely based on megahertz (or gigahertz). Even Intel has had to deal with this, as some of its chips don't equate to the speed-per-megahertz ratings of its other chips. Apple clearly feels that Intel's chips have the best growth path, and so that's why it's made this major shift in technology.

On the positive side, having Apple use Intel chips will eliminate the ability for PC users to use the gigahertz of a Mac's processor against them. And with the processors being equal, we will be able to make a much more direct comparison between the speed of Mac OS X and Windows XP.

● Jason Snell and Matthew JC. Powell



■ INTEL'S STORY



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Intel predicts wide impact

Apple's new partnership with Intel will have far-reaching effects, not just for the two companies, but throughout the tech industry, according to Intel.

"The dynamic will be different in the marketplace overall," said Chuck Mulloy, Intel's corporate spokesman. "Apple has pushed the envelope historically — that competition to push is good for consumers and good for the market in general. It will reinvigorate the amount of innovation out there."

Mulloy's comments came amid a wide-ranging interview at the company's headquarters in Santa

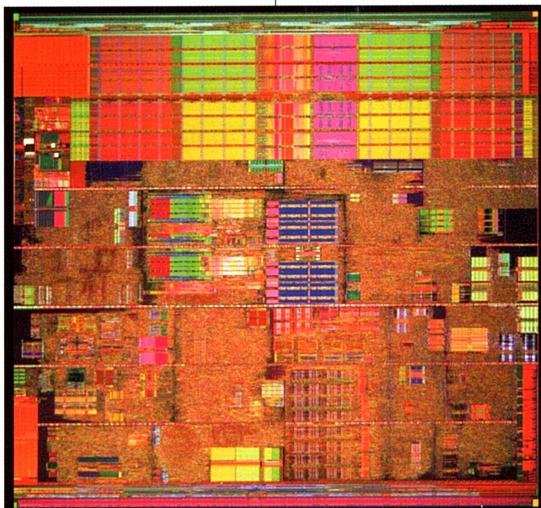
Clara, California, that touched on Intel's manufacturing capabilities, the company's ability to lower the power consumption in its chips, and what processors might appear in Apple's hardware starting next year. (Intel remains mum on that last point.) Mostly, Intel officials stressed the similarities between their company and the Mac maker.

Apple has taken the lead in pushing technology such as USB (which Intel invented but Apple popularized), FireWire, and wireless networking -- Intel says that type of innovation is what it strives for as well. "It's a very good fit," Mulloy said. "Apple has a track record of being the most innovative PC company, and we think we are very innovative as a semiconductor manufacturer."

64-bit chipsets, 90-nanometer technology and Dual Core.

One of those innovations pushed by Apple is 64-bit processing, a technology that lets you address more memory than with standard 32-bit chips. In promoting Mac OS X, Apple has touted the benefits of 64-bit processing for handling heavy-duty tasks.

Complementing that, Intel has 64-bit chips in its arsenal. The Pentium D Dual Core — a derivative of the Pentium 4 — and the Itanium both offer 64-bit capabilities, according to Intel. The company would not say whether Apple would use one of these chips or a completely different model. (See the sidebar "Inside Intel's offerings" for a description of the highlights of Intel's product line.)



Intel currently uses a 90-nanometer process in manufacturing its chips. In fact, Mulloy said that Intel has "more 90-nanometer chips than anyone else." That's likely of interest to Apple, which a year ago, cited unforeseen challenges in moving to a 90-nanometer process in explaining why a promised 3GHz Power Mac G5 hadn't shipped.

Lowering the nanometer technology gives chip designers the option of making chips smaller or keeping a processor the same size and adding functionality. The problem with just boosting clock speed alone, Mulloy explained, is that it gets to the point where you can't cool it. Indeed, Intel built its Pentium M using the 90-nanometer process so that it could have the choice of boosting the clock speed or adding more functionality and lowering power consumption.

This is where Intel also adopted Dual Core. With a Dual Core chip, you basically use two microprocessors on the same piece of silicon. A single Dual Core chip looks to the operating system like it's two chips, giving you greater performance. While there isn't a 2x boost using Dual Core, you still get a significant boost — of course, the same principle applies when using multi-core designs, although there is a point of diminishing return on the performance.

While semiconductor manufacturers strain to handle the burden of using the 90-nanometer technology to produce chips, Intel is already

looking far beyond that threshold. Currently, Intel has 90-nanometer manufacturing facilities in Oregon, New Mexico and Ireland. However, by the end of 2005, the company will already move on to the next manufacturing process.

Later this year, Intel will start up a converted factory in Arizona that will churn out chips based on a 65-nanometer process. Another plant in Ireland will follow next year manufacturing the same chipsets.

Intel is everywhere. Those plants in Oregon, New Mexico, Arizona, and Ireland only provide a glimpse at Intel's manufacturing reach. Mulloy said that Intel has 14 wafer fabrication facilities around the world and will spend \$US5.5 billion in capital and close to \$US5 billion in Research and Development this year alone.

"We have more manufacturing capacity dedicated to microprocessors and chipsets than anyone else in the world," Mulloy said.

While the company attained much of its fame — and much of its revenue — from the PC business, when it comes down to its simplest component, Intel is not just about PC chipsets. "We are a manufacturer and have been since we were founded," Mulloy said. "We make semiconductor components of the highest quality and higher volumes than anyone else and we can turn that manufacturing machine in any direction we need to very rapidly compared to others."

In January of 2005 Intel went through a restructuring that affected up to 50 percent of the company's employees as they

Inside Intel's offerings

What chips might appear in Macs next year?

When it comes to sipping daintily from the AC and running cooler, Intel chips are unmatched by anything IBM has to offer. That's a handy characteristic to have for a CPU that's wedged within the narrow confines of a notebook. Before we get into the nitty-gritty of what the chip giant's products will do for you, what they won't offer is a giant leap in performance on the desktop. Apple's current G5 is a powerful chip — despite running at slower clock speeds than the processors powering Wintel machines. Slower clocked x86-compatible Athlon 64s from über Intel-rival AMD's regularly benchmark as fast or faster than Intel's offerings. (Notebook performance is another matter as you'll gather when you read about the Pentium M below.) The Wintel world is cluttered with far more products than the Mac universe and Intel offers a bewilderingly large array of CPUs that vary in cache size, speed, and features. A lot can change in a year, but with a recent flurry of new technology releases from Intel, the first Intel-based Macs should feature one of the following processors — or something very close to them.

Pentium 4

Designed for: Desktops and desktop replacement laptops

The best known of Intel's processors, the P4 was designed to achieve high clock speeds, but it generally does less per clock cycle than competing CPUs. The latest P4s run as fast as 3.8GHz with 1MB or 2MB of cache and an 800MHz front-side bus. They're also 64-bit courtesy of Intel's EM64T — a version of the x86-64 64-bit instructions developed by AMD for its Intel-compatible Athlon 64 CPUs. EM64T P4's perform both 32-bit and 64-bit instructions with equal facility, and, if Apple systems employing them are anything like the PC-side of things, they should support at least 64GB of directly addressable memory.

Some P4 models also feature Hyper-Threading, which creates two virtual CPUs to improve performance when running simultaneous tasks — like applying a Photoshop filter while you're browsing the web.

Pentium D

Designed for: Desktops and performance laptops

The Pentium D evolved out of the P4 and, like the G5 and most Intel CPUs, is manufactured using a state-of-the-art 90-nanometer process. The "D" stands for Dual-core, which means two execution cores — the heart of a CPU that actually processes the instructions — on the same chip. It's essentially the same concept as a dual-processor G5, except that the CPUs and support logic are found on a single piece of silicon. With two cores, Pentium D CPUs are especially adept at multi-tasking and all three models (2.8GHz, 3.0GHz, and 3.2GHz) feature the EM64T instruction set, 1MB of cache per core, and an 800MHz front-side bus.

continued page 27

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moved to a platform organisational model. This put many similar technology groups under the same umbrella, allowing them to share relevant technologies easier than was previously possible.

Currently Intel is broken up in five main groups: Digital Enterprise group, for servers, desktops and wireless products; Digital Home, an emerging group that focuses on taking devices and making them work together in the home; Mobility Group, which focuses on all things wireless, including PDAs, cell phones and computers; and Digital Health, focusing on technology to improve healthcare.

"If you have a [mobile] phone, there is a better than 70 percent chance you have Intel Flash memory in it. If you have one of the newer PDAs, there is probably a 75 to 80 percent chance that there is an Intel processor in it. And Intel components are even in the ABS systems on your car," Mulloy said. "We are the world's largest semiconductor manufacturer — we have a reputation based on microprocessors, but we have a very broad portfolio and we are continuing to push that."

Where does Apple fit? Intel has been talking to Apple for many years, trying to get the computer-maker to switch from a PowerPC processor to an Intel-based model. Finally winning Apple's business has been a satisfying accomplishment. "It's always good to get a new customer, but it's even better to get one that you have been working on for this many years," Mulloy said.

Intel typically partners with its original equipment manufacturers (OEMs) like Dell to help in their advertising efforts. While

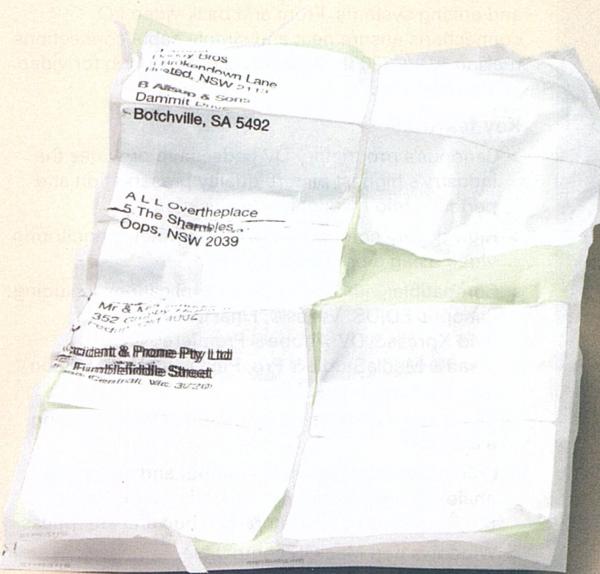
helping the OEM, the ads also market the Intel processor. Mulloy wouldn't comment on whether the Apple/Intel deal announced this week would include any kind of co-marketing plan.

"Apple has one of the top brands in the world, and I'm sure they will do what they need to be consistent with what people have come to expect from them," Mulloy added. "The key for us is to give them what they need for them to be successful. What they do with respect to marketing is going to be their call — far be it for us to tell them how to manage their brand."

Historically, Apple is one of the most secretive companies in the technology market, choosing to make a big splash when Steve Jobs takes the stage during one of his keynote speeches, rather than pre-announce products. Intel, on the other hand, opts for a less secretive marketing approach. Intel plans to continue doing business the way it always has. "We will market our products the way we normally do," Mulloy said. "Apple, like any other OEM, will choose the parts they want to use and then it's completely up to them how they will roll their products out."

When Intel does a launch, it ships the processors in volume and makes sure companies are able to ship products based on those processors immediately. In some cases, an OEM may not choose to ship products based on a certain chip, Mulloy said, but Intel makes sure everyone has the choice. "Launch for us in microprocessors is that we ship in volume. How that plays with Apple is up to Apple," he said. "They can announce it or not announce it; we just make sure it's available to everybody."

● Jim Dalrymple



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Pentium 4 Extreme Edition

Designed for: **Gaming and performance desktops**

The newest version of the P4 EE is actually a Pentium D with Hyper-Threading enabled, meaning two physical processor cores split via Hyper-Threading for a total of four virtual CPUs. This latest flagship EE shouldn't be confused with older EE models, which are single-core P4s with HT and either a 2MB cache (3.73GHz, 1066MHz front-side bus, 90-nanometer model) or dual 512KB L2 and 2MB L3 caches (3.2Ghz/3.46GHz, 800MHz/1066MHz front-side bus, 130-nanometer models).

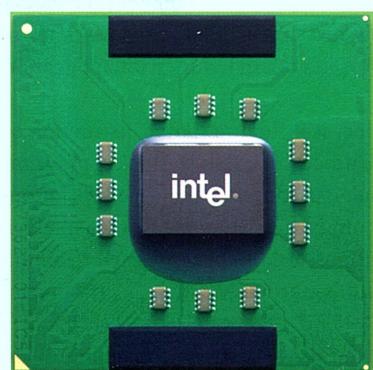
Pentium M

Designed for: **Laptops**

Some think that the 32-bit Pentium M is what Apple was really after from Intel in the short term. The Pentium M isn't based on the P4 core; it's a separate animal that does a lot more work per clock cycle. Available in clock speeds from 1.5- to 2.13GHz, it easily outperforms the G4 found in Apple's fastest notebooks and offers wonderfully parsimonious power consumption. Pentium M notebooks regularly last more than five hours on a single battery charge — something iBook and PowerBook users can currently only dream of.

Celeron

Designed for: **budget desktops, laptops**



Celerons are the lower-priced, 32-bit-only cousins of the Pentium that generally suffer a slower front-side bus, less cache or some other performance-inhibiting characteristic. They cost only a little less than low-end Pentium models but you never

know what might make an appearance in a budget Mac.

And the rest

The above are the chips we believe are most likely to appear in the first wave of Intel-based Macs. They are not, of course, all Intel offers.

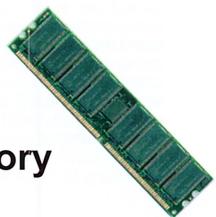
Xeon. Designed for dual-processor server and workstation platforms, these are the chips in the Dell machines Apple benchmarked the G5 against at its launch. 64-bit, 90-nanometer and offering speeds up to 3.6GHz they're nonetheless unlikely to be in Intel-based Macs, at least at first, because of their high cost.

Itanium. Another 64-bit RISC platform, the Itanium is intended as a low-cost server chip. At this stage Apple has not made any comment about future Xserves, but they may well feature Itanium processors.

• Jon L. Jacobi and Matthew JC. Powell



External Drives



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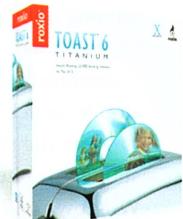
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Go on, admit it — you didn't even know there were this many Mac game developers, did you?

The chips are down

How is this major change in the way Macs work likely to affect Macintosh game development? Experts in the Mac game business see both positives and negatives in the move to Intel.

Executives with two of the most influential companies in Mac gaming both agree that Apple's next big move may let them reap big rewards, if Apple plays its cards right.

Destineer and MacSoft president Peter Tamte calls Apple's decision to switch to an Intel-based architecture "an aggressive move" to grow the size of the Macintosh's market. "The switch to Intel should also help us narrow the gap between a game's release on Windows and release on Mac."

Aspyr Media director of development Glenda Adams hopes Apple can "explode their marketshare" with a move to competitively-priced Intel-based hardware. "If OS X has a 20 percent market share the revenue possibilities for native games could make things a lot different."

The dual-boot quandary. Apple has said that it won't prevent Windows from running on an Intel-based Mac, though it won't sell or support Windows either. Some in the industry have taken that as implicit acknowledgment that Windows will run natively on an Intel-based Mac, or at the very least, considerably faster than is now possible using Microsoft's Virtual PC.

If that's the case, it's conceivable that serious Mac gamers could create a dual-boot system that would allow them to run Windows versions of games. That could decimate the Mac game business, which is dependent on conversions of PC and console games that take months to release after their original counterparts. "This may result in developers not wishing to spend the money to port games to the Mac, certainly," said Ambrosia Software president Andrew Welch.

Epic Games programmer Ryan C. Gordon compared the current concern over Mac gaming to another platform he's familiar with: Linux. Gordon has brought games to the Mac and Linux including Unreal Tournament 2004, America's Army, and Postal 2. Gordon advocates against Intel-based Macs' potential ability to run Windows in a posting on his web site.

"Will people dual boot? Will they still prefer a native port, even if they can run Windows? What about a Windows emulation layer like Linux's WINE project ... would that kill native game ports?" Gordon asked.

Carrots and sticks. "Even if users can run Windows on a Mac, we'll still make Mac OS X versions of our original games," said Tamte. "Plus, if Apple's shift to Intel does grow the Mac market, I'm willing to bet there will be lots of unique features we'll be able to build into our Mac versions in the future."

Adding value to Macintosh conversions is an approach shared by another major Mac game publisher, Feral Interactive. "We ... improve games, and add extra features over the PC version," said Feral's Edwin Smith.

For Feral's conversion of Chessmaster 9000, for example, the company reworked the game's interface to be more Mac-like. Its most recent release, Commandos Battle Pack, comprises two releases, Commandos 2 and Commando 3, into one package.

Potential pitfalls. Pangea Software president Brian Greenstone suggests that Mac game developers who need to get existing projects working on Intel-based Macs are in for a tough ride, Steve Jobs' comments about recompiling and gaining Intel compatibility notwithstanding. "This is far, far worse than the switch from 68000 to PowerPC ten years ago," said Greenstone. "That was essentially just a recompile. This requires a complete recode of data handling."

That opinion is shared by Brad Oliver, who works with Glenda Adams at Aspyr Studios, Aspyr's internal game development house. "Byte-swapping bugs are a pain to track down," he said.

What's more, added Greenstone, Rosetta isn't a viable solution for game developers. Rosetta is Apple's code name for the emulation solution that will allow new Intel-based Macs to run unaltered PowerPC code. "Rosetta doesn't work with applications that use AltiVec," he said.

AltiVec, or Velocity Engine, is a floating point instruction set implemented in G4 and G5 processors. Using AltiVec, programmers can accelerate the display of graphics and other operations, and support for the technology has been used extensively in some games. AltiVec operations need to be converted to similar functions supported in Intel's hardware, and Rosetta doesn't support AltiVec.

"Rosetta will almost certainly be useless for games," said Gordon.

Original Mac game developers speak out. Colin Lynch Smith of Freeverse Software said that he doesn't think updating its titles to run on Intel-based Macs will prove to be much of a problem, and he's also hoping that Rosetta will help ease the transition to the new platform for some titles in Freeverse's catalogue. "Although we'll probably have to put a guy on doing this, which will cost us money," he said.

Aaron Fothergill is one half of Strange Flavour, a UK-based original game developer responsible for creating Freeverse Software's Toysight and AirBurst games. As an original developer of Mac games, Fothergill has concerns that are different from Mac game conversion studios. "Our future games are using Xcode at the moment, so it shouldn't be too much of an issue, technically," Fothergill said. "And as the phase-in will take until the end of 2007, it's not something we need to put a lot of development time into at the moment." • Peter Cohen

By Dan Warne.



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■ TextWrangler 2.5 Freeware X (10.3.5 or later)

A free cut-down version of the venerable BBEdit text editor.

■ Flip4Mac 1.0.3 \$US99 Shareware X (10.3 or later, QuickTime 6.5.1 or later)

QuickTime component that can export video as Windows Media Video.

■ AirFoil 1.0.5 \$US25 Shareware X (10.3 or later)

Play audio from any application wirelessly to your Airport Express. Doesn't work well for movies in DVD player or QuickTime though, because the delay introduced by the wireless link means sound is out of sync with the picture.

■ Imagewell 2.0.224 Freeware X (10.2.8 or later)

Fantastic utility for uploading pictures to iDisk/FTP. Drag any picture to the ImageWell icon and it will give you options to resize and optimise it. Then, it will send your picture to one of your predefined locations with one click and copy the resulting web address to your clipboard.

■ IPMenu 1.1 Freeware X (10.2 or later)

Tiny (51K) application that puts your LAN IP address as well as your internet IP address in your menu bar. Click on one of the IP addresses

and it is copied to your clipboard. Can also e-mail you when your IP changes.

■ iGrabNews 1.2.1 \$US10 Shareware X (10.3 or later)

A UseNet file downloader, tailored for newsgroups that have thousands of big files posted in them. It treats multi-part articles (eg files) as a single download, and automatically decompresses and recombines multi-part archives.

■ iPhoto Extractor 2.0b9 Freeware X (10.3 or later)

Extract all the images from your iPhoto library into a separate folder so you can scrap your library and reimport the photos from scratch. Can help resolve the awful lag iPhoto is prone to develop over time with large libraries.

■ JiWire 1.0 Freeware X (10.4 or later)

Widget that helps you find the nearest WiFi hotspot. Draws on a database of 63,400 hotspots in 99 countries (including Australia).

■ Address-o-Matic 1.0 build 24 \$US20 Shareware X (10.3 or later)

Share your Address Book contacts with other network users through Apple's Bonjour networking technology (previously known as Rendezvous).

■ Transcriva 1.0.3 \$US19.99 Shareware X (10.3 or later)

Transcription application that allows you to keyboard control playback of digital voice recordings. Also helps with transcriptions where multiple people are speaking in conversation, using an iChat-like visual interface.

■ Surf Pimp 2.0.1 Freeware X (10.2.8 or later)

Check the surf at any of 100 Australian beaches. (At the time of writing, Sydney Harbour had a 3ft swell. Who would have guessed!)

■ Disable Tiger Features 1.0.2 Freeware X (10.4 or later)

Do you suspect Tiger's Spotlight and Dashboard of slowing your system down? You can disable them entirely with this utility (and re-enable them too).

■ MenuMeters 1.2.2 Freeware X (10.2 or later)

Put tiny meters for your computer's performance in your menu bar. Includes CPU, disk, memory and network monitoring.

■ GasLight 0.4.1 Freeware X (10.3 or later)

A striking visualiser for iTunes. Draws on the blue and orange colours of a gas flame.

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The view from the other side of the counter.

By Fleur Doidge.



Hot Links

www.artofwar.comSun Tzu's *Art of War for Traders and Investors* — a book on the *Art of War* and its applicability to modern financial marketswww.chinapage.com/sunzi-e.htmlText of Sun Tzu's *Art of War*, translated by Lionel Gileswww.itnews.com.au/newsstory.aspx?ClaNID=18356&r=inbodylk

The IT channel is tough

Fighting a good fight

"I believe in Apple, but I also believe in doing things the right way. I don't believe in screwing anyone over."

THE quote is from an Apple reseller who cannot be named because he fears reprisal from Apple. There are rumours flying around in the channel that Apple won't confirm or deny, so nobody really knows how true any of the rumours are. And some Apple resellers are very unhappy about it.

With some justification. One persistent claim is that Apple is pulling out of AppleCentres; it's going to discontinue the AppleCentre brand. So what? What does it matter, whether a shop has "AppleCentre" plastered all over the place?

The AppleCentre brand is resellers' lifeblood — they can't just drop the whole shebang and start again in another guise.

Customers aren't necessarily aware of what's going on just under the slick, bright surface of their local Apple outlet. Again, with some justification. The products are great, and most people who sell Apple gear were attracted to that particular brand as well as the company's modus operandi. Not for nothing are Apple resellers known to be somewhat evangelical.

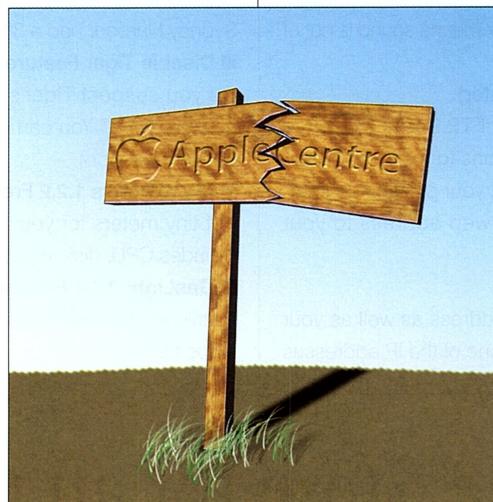
All right, cut the crap, I hear you say. Where's the evidence?

I don't have any evidence. What I do have are sources close to the Apple channel who all have similar tales to tell. None wants to go public. They don't want to be seen to be complaining. "If you question Apple about it, you get 'oh, you're disloyal,'" one source said. "[But] we hear the AppleCentre brand is going to be discontinued in 12 months."

What I did: like any good journalist, I shook the tree to see what fell out. I asked Apple Australia to comment on how long AppleCentres would be around. I also asked when Apple's own stores are expected to open here and for comment on some resellers' belief that AppleCentre as brand and entity is on the way out, with Apple shifting to a more direct sales model in the near future.

Martha Raupp, corporate affairs manager for Apple Australia, e-mailed me back. Her response was: "We can't comment on these questions."

No comment. Yet again, no comment. There's a reason public relations firms advise their clients against the "no comment" response: it raises suspicion. The person who refuses to answer questions ignites mistrust. That's just human nature.



One cannot, however, infer guilt from a "no comment" response. That said, things are going on that make it easy to see how such a rumour might have started and might continue to spread.

Partners say Apple is slowly disengaging from its resellers. Some claim they're feeling a gradual withdrawal of resources and care. "It's like Apple Australia has given up on us," one source said.

Apple has already opened its own stores overseas. Why does it need its own stores, if it has a strong indirect channel? Apple itself has said it is not in the business of putting AppleCentres out of work.

Apple is shutting down the education pricing for iPods. Customers will instead be made to buy direct.

"Apple's making iPod accessories only available to stores online. If that's not unfair, I don't know what is. It's predatory behaviour. They're saying 'get stuffed, mate, we're taking the product away,'" one source said. "You do that because you're trying to retain the customer."

Apple is also focusing on its share price and going corporate. Selling servers to multinationals, for instance. That's an area where manufacturers often do best selling direct. Meanwhile, Australian Apple Centres have moved to form their own marketing committee. They're having to do things themselves, they say, because Apple is no longer doing it.

"I don't want Apple to hand me more margin or money or corporate assistance. What I want them to do is say Apple Centres are going to be here next year, that they do not plan on shutting AppleCentres for the next 10 years," the source said. "If you want to sell a product, you inspire it to be sold, not demand it be sold. I think Apple won on that."

Modern corporate practice is tough — even ruthless — and IT is one of the toughest industries out. Anthony Rumble, boss of open source-related products reseller Everything Linux, has said the IT channel makes even bookselling look easy (see "Hot links").

Sun Tzu said one way to win a war is to avoid fighting and concentrate on frustrating the enemy's plans. Wars can thus be won by withholding information. Modern corporations are as fond of Sun Tzu's famous little book, *The Art of War*, as they are of their own jealously guarded strategies. Once again, Apple won't confirm or deny its plans for the future. Apple won't comment, nor seek to calm the fears of its resellers. Yet surely Apple isn't at war with its channel? ☺

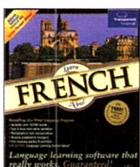
Fleur Doidge is a longtime observer of the Mac reseller channel in Australia.

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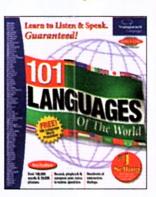


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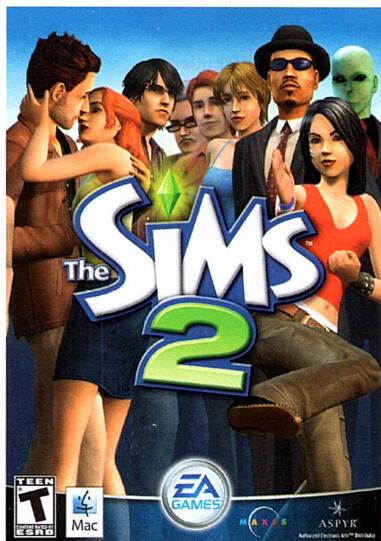
Ideal for school, business, travel, or personal growth, I Can Speak Series gives you access to fun and easy learning solutions including 15 easy lessons, a revolutionary flashcards program, and the Language Learner's Tool Kit, that will have you using Language in no time! See our website for a list of available languages.

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Kensington

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This Stylish version of the 3-Button PilotMouse Optical Wireless adds color and excitement to any desktop. It features Quick RF high-speed wireless connectivity, a refined shape and flexible rubber grips for maximum comfort.

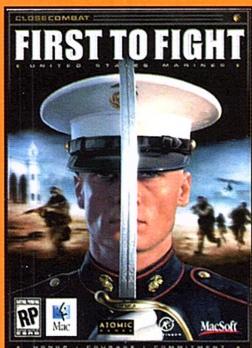


PilotMouse Optical Pro Wireless \$89.00

5-button – features wireless connectivity, a refined shape and flexible rubber grips that put 5 programmable buttons at your fingertips. The speed and pinpoint accuracy of Kensington's DiamondEye optical technology responds to the fastest movements.

Kensington Pilot Mouse - Bluetooth \$139.00

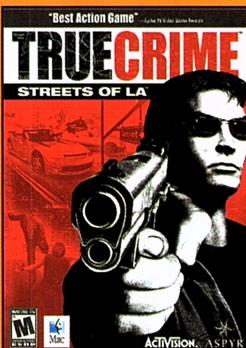
3-button – the ultimate in comfort and wireless technology! Enjoy unparalleled freedom and power. The PilotMouse Bluetooth Wireless works seamlessly with Bluetooth-enabled computers and up to 7 other Bluetooth devices, all in a wireless range of up to 30 feet. Contoured form and flexible rubber grips provide unmatched comfort for both left- and right-hand use. Blue and silver mouse with two programmable buttons and scroll wheel.



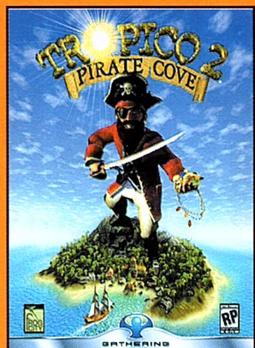
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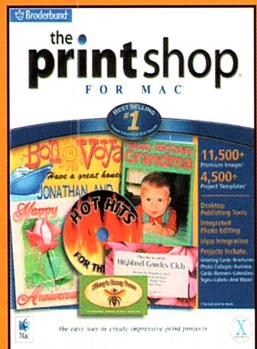
Tropico 2 - Pirate Cove
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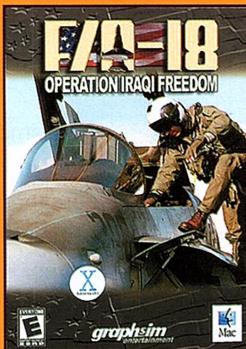
SW Battlefront (Due June)
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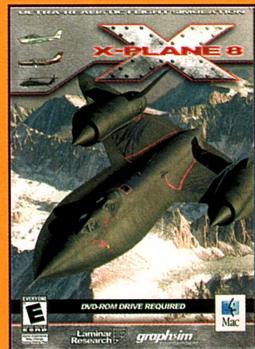
The Sims Party Pack
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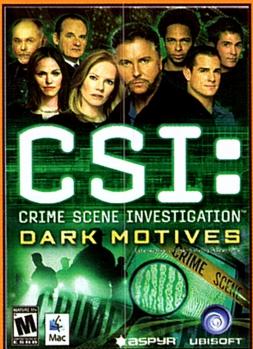
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Hot Links

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SafariSorter.html
 Safari Sorter
www.lordofthecows.com/safari_enhancer.php
 Safari Enhancer
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 Productivity expert David Allen
www.fixamac.net/software/psr/
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www.bresink.de/osx/TinkerToolSys.html
 Tinker Tool System
scriptbuilders.net
 AppleScripts for Entourage, among many others
www.entourage.mvps.org/script/fav_scripts.html
 More Entourage scripts
www.macworld.com/0440
 Allen Watson scripts
homepage.mac.com/robbuckley/HTML2004.html
 Complex HTML script

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 Paul Berkowitz scripts
www.apple.com/applescript/mail/
 Documentation for Apple Mail's built-in scripts
www.macosxhints.com
 Another source for Mail scripts
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www.ragingmenace.com/software/menumeters/
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 LaunchBar

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SECRETS OF MAC SUPERHEROES

HIGHLY EFFECTIVE MAC USERS SHARE THEIR SMART WORK HABITS

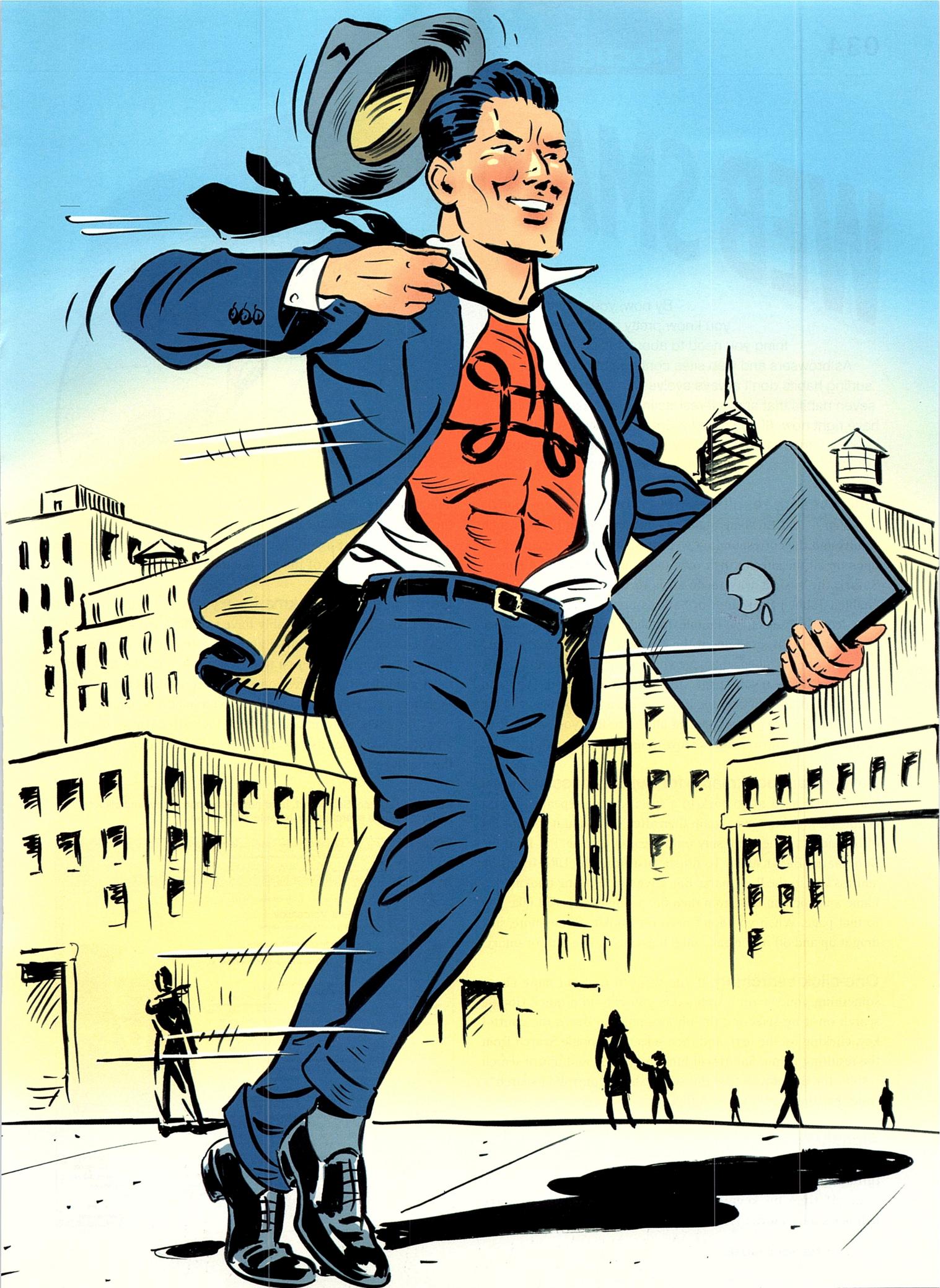
We are all creatures of habit. Sometimes those habits aren't doing us any good. Take the way we use our Macs. All too often, we figure out a way to do something — surf the web, handle e-mail, or any other little computing chore — and then keep doing it that way forever.

How often do we take a critical look at the way we do things, figure out a better method, and change our habits?

Well, here's a chance. We asked some of the most knowledgeable users we know to let us in on a few of the secrets that help them make the most of their time and get the most from their Macs. Specifically, we wanted to know about their computing habits — comprehensive approaches to using applications efficiently.

For example, Merlin D. Mann has some advice for handling your e-mail inbox. He also explains how he uses Entourage to implement the ideas of productivity guru David Allen. Dan Frakes suggests some AppleScripts that make quicker work of e-mail chores. Kirk McElhearn offers tips on using your browser's newer features for nimbler surfing. Troubleshooting ace Ted Landau lists the first six things you should do when your Mac gets balky. And some contributors explain which utilities they couldn't work without.

None of our experts' suggestions are exactly revolutionary. While all of us could be doing these things, few of us are. It's never too late to break a bad habit — and adopt some good ones.

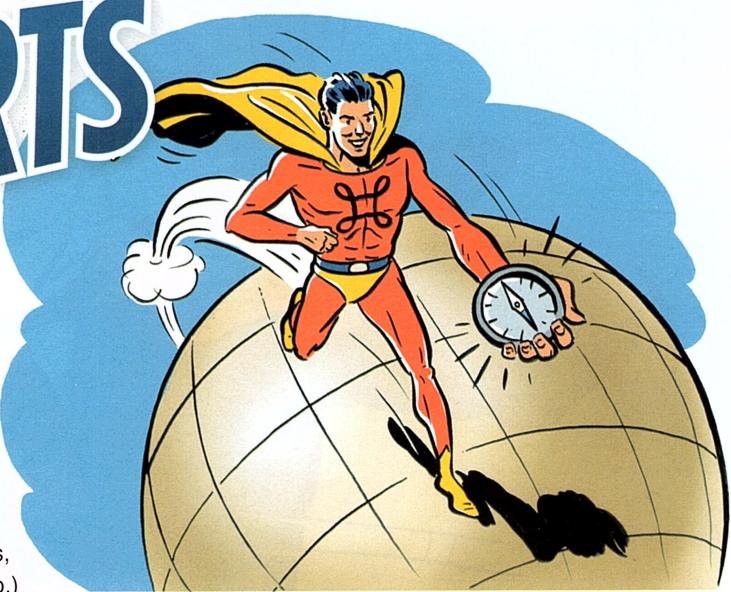


WEB SMARTS

By now, you may think you know pretty much everything you need to about surfing the web.

As browsers and web sites continue to evolve, our surfing habits don't always evolve with them. Here are seven habits that any self-respecting Safari user should have right now. (If you're not a Safari fan, don't worry:

most of these tricks work, with slight variations, in the other major browsers, too.)



Open search results as new tabs. Tired of the Google two-step – that tiresome toggling between a long list of search results and the corresponding web sites? It may be better to first open up all the sites in their own tabs and then browse them. In Safari, the easiest way to do so is to first make sure you've enabled Tabbed Browsing: in Safari's preferences, click on the Tabs icon and select the Enable Tabbed Browsing option. Once you've done that, hold down the ⌘ key when you click on any link you want to open; the page will appear in its own new tab, with the Google results page still in the foreground. (You can press ⌘-shift and click on the link if you want it to appear in the foreground.) Once you've opened all the results you want, press ⌘-shift-left arrow or -right arrow to navigate through the tabs.

Save instant bookmarks for quick access. When you know you'll need to go back to a specific page repeatedly for a couple of days but never again thereafter, don't add it to your list of bookmarks, where it'll stay until the end of time. Put it on the Bookmarks Bar instead. To do so, just drag the URL from the address box to the Bookmarks Bar. Give the resulting bookmark a name and click on OK. From then on, a single click will take you to that page. When you don't need the bookmark anymore, just drag it up and off of the bar, and it'll disappear in a puff of smoke.

One-click searching. If you want to find out more about something you see on a web page, you can do a quick Google search on it by selecting the phrase, holding down the control key, clicking on the text, and then selecting Google Search from the resulting menu. Safari will jump to Google and return search results for the phrase (see the screenshot "Controlled search"). Note that this won't work on link text.

Alphabetise your bookmarks. If you have lots of bookmarks, you know how much of a headache it can be to scroll through your Bookmarks menu to find the one you want. Save yourself time by keeping your bookmarks in order. Jerry Krinock's SafariSorter (see "Hot links") will sort your bookmarks

alphabetically; it'll also weed out duplicate bookmarks and make the menu more manageable. Each time you add a bunch of new bookmarks, run it again. A couple of seconds once in a while will save you plenty of time in the long run.

Centralise your bookmarks. If you've ever used a browser other than Safari, you probably have two different sets of bookmarks on your system. Safari automatically imports bookmarks from other browsers the first time you run it, but after that you'll need a third-party application such as Gordon Byrnes's Safari Enhancer (see "Hot links"), which lets you import bookmarks from other browsers or from a flat HTML file. After you've corralled all your bookmarks, use an app such as SafariSorter to get rid of the duplicates.

Controlled search. Select text, hold down the control key, and click to perform Google searches on the selected phrase.

Kliment Voroshilov – Wikipedia, the free encyclopedia

Kliment Voroshilov – Wikipedia

Kliment Voroshilov

From Wikipedia, the free encyclopedia.

Kliment Yefremovich Voroshilov (Климент Ефремович Ворошилов) (January 23, 1881 – December 2, 1969) was a Soviet military commander and politician.

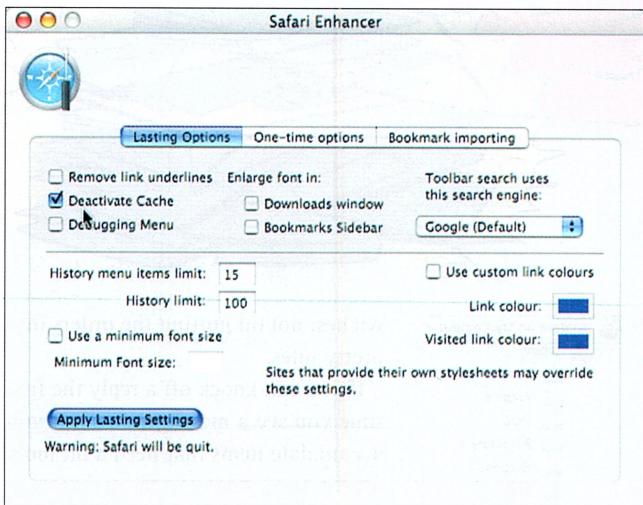
Voroshilov was born in Verkhne (then called Yekaterinoslav) in the Russian Empire. He joined the following the Russian revolution he was a member of the Ukrainian provisional government and Commissar for Internal Affairs. Organizing the defense of Tsaritsyn during the civil war, he became closely associated with Joseph Stalin.

Voroshilov was elected to the Central Committee in 1921 and remained a member until 1961. In 1925, after the death of Mikhail Frunze, Voroshilov was appointed People's Commissar for Military and Navy Affairs and Chairman of the Military Revolutionary Council of the USSR, a post he held until 1934. He was made full member of the newly formed Politburo in 1926, remaining a member until 1960. He was heavily involved in Stalin's Great Purge of the late 1930s. His career benefited greatly from the downfall and execution of Marshall Mikhail Tukhachevsky.

Voroshilov was appointed People's Commissar for Defence in 1934 and a Marshal of the Soviet Union in 1935. He lost his post as defense commissar over the Soviet-Finnish War (1939-1940). During World War II, Voroshilov was a member of the State Defense Committee.

After the German invasion of the Soviet Union in June 1941, Voroshilov was made commander of the northwest

Turn off the cache. The cache is useful for dial-up connections (it stores previously viewed pages, letting you skip a new download). However, Safari may actually display pages faster over a broadband connection if you turn the cache off. Instead of wasting time searching for previously viewed pages and images on your hard disk, Safari just downloads everything. You can also speed up browsing by deleting the cache of favicons (those tiny icons that many web sites display in front of their URLs in the address box). Safari Enhancer can do both.

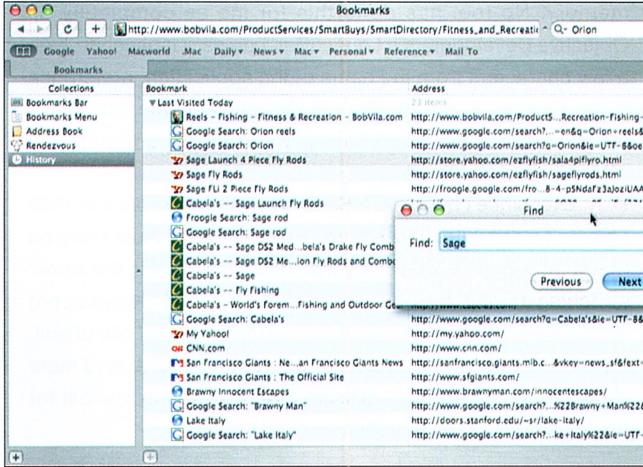


Stash the cache. Safari Enhancer lets you turn off caching; doing so speeds up web-page display over a broadband connection.

Let history repeat itself. You probably know that you can use the History list to find pages you've viewed recently. To make using the History list easier, don't just scan it. Search it. Press ⌘-option-B to display the Bookmarks window; then click on History in the Collections list. Press ⌘-F and type a word you think is in the title or URL of the page you're looking for. Press return to go to the first page with that word, and press ⌘-G to go to the next. Once you've found the page you're looking for, just double-click on it to view it again (see the screenshot "Historical search").

● Kirk McElhearn

Historical search. It can be tough to wade through a long list of sites you've recently visited. But pressing ⌘-F in the History window lets you search the URLs and titles therein.



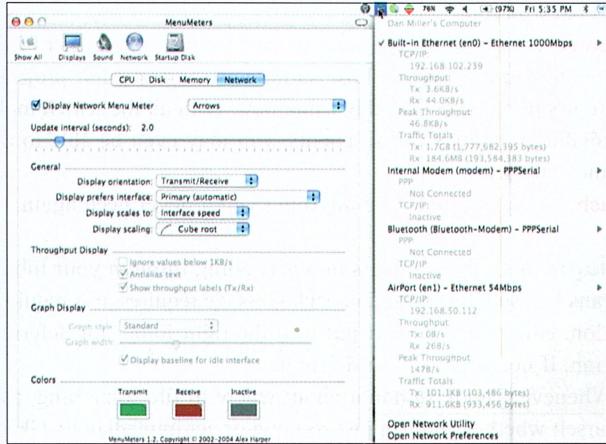
SOFTWARE WE CAN'T WORK WITHOUT

Butler. As a launcher, Peter Maurer's Butler is similar to both LaunchBar and Quicksilver. Just press control-spacebar and start typing the name of an application, folder, web shortcut, or file — Butler shows you the matches as you type. Press return to launch the selected item. Butler does much more than that, though. It can also control iTunes and enable Fast User Switching without taking up space on the menu bar, and it supports simple but useful macros and multiple clipboard items. Butler isn't the friendliest application around — its user interface takes work to master. Once you've done so, it's a hard tool to live without (\$US18; see "Hot links").

MenuMeters. To keep an eye on my system's innards without opening and closing something like Activity Monitor, I use MenuMeters, from Raging Menace. Its space-efficient graphics on the menu bar let me keep an eye on CPU usage, disk activity, memory utilisation, and network activity, and each module can be individually enabled, disabled, and customised. CPU-hogging processes become obvious, excess disk activity is easy to spot, and I can monitor upload and download speeds — all with nothing more than a glance at the menu bar (see "Hot links").

Print Window. Sometimes I need to know — or show someone else — what's in a folder on my system. OS X doesn't make it easy. There's no File: Print Window command, and while I could drag and drop a Finder window onto a printer in the Printer Setup Utility, the output isn't pretty. When I drag and drop that same Finder window onto the Dock icon of SearchWare Solutions' Print Window application, I can specify what I want printed, how I want it sorted, whether I want icons included, and whether I want to include and expand any subfolders. The Advanced, \$US15 version adds even more control to the process (see "Hot links"). ● Rob Griffiths

System spy. MenuMeters puts a small, at-a-glance system status report in your menu bar.



THE INBOX MAKEOVER

Each e-mail message in your inbox demands your time and attention.

Filters and rules are great for reducing some of that demand, shunting easily defined mail such as e-newsletters and personal notes to their appropriate folders. Important e-mail messages are often hard to define and organise with automatic, rules-based management. They require filters and rules that reside only in your brain.

The key to managing these important messages is to evaluate each one for the response it requires and then quickly convert that evaluation into action. What follows is one such system (based in large part on an approach suggested by productivity guru David Allen in his excellent book *Getting Things Done* – see “Hot links”). Your particular work and e-mail volume may dictate some changes to these basic ideas, but they’re a great place to start.

Setup. Start by stripping your e-mail directory structure down to seven basic folders, each defined by the action that its messages require (see the screenshot “Reduce your folders”):

Inbox. For unread and unprocessed items only;

Respond. For messages requiring only short responses that can be ticked off in five minutes or less. You’ll periodically go through this folder and send off those quick responses;

Action. For e-mail that requires anything beyond a quick response – work, research, or a detailed answer;

Hold. For items – such as new login information and package-tracking URLs – that you’ll want close by in the next few days; prune weekly;

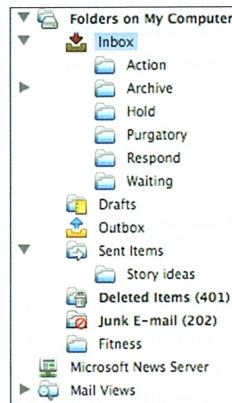
Waiting. For mail that’s likely to require action when its sender gets back to you.

Archive. For anything you want to save for future reference. This is where you can put all those subfolders for particular projects or topics that you’re probably using now. With all the search tools available in today’s e-mail clients, you may even be able to do without those.

Trash. For spam, junk, and anything you’ll never need again.

Triage. With those folders in place, going through your inbox means focusing on the action each message requires. If it requires action, either do it now or put it in the right folder for deferred action. If not, archive it or delete it.

Whenever you’re in doubt about where to file something, ask yourself whether you can just respond or act immediately. Like a short-order cook, you want to stay focused on making sand-



Reduce your folders. Cut down on the number of e-mail folders you have, and define each by the kind of action that the messages inside it require.

SOFTWARE WE CAN'T WORK WITHOUT

LaunchBar. You know a utility has become indispensable when the keystrokes that invoke it have become part of your muscle memory. No tool has done this for me as completely as Objective Development’s LaunchBar. I press ⌘-spacebar; type a few characters from the name of the application, preference pane, document, web bookmark, or contact name; and press return — and then, poof! LaunchBar opens the right thing. (\$US20; see “Hot links”).

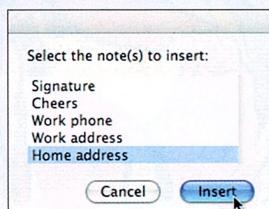
iKey. Ever since I bought CE Software’s QuicKeys back in 1988 I haven’t been without a macro launcher like it. Now I rely on Script Software’s iKey, but my two main uses remain the same: switching among my most commonly used (and always open) applications with the function keys and typing small bits of boilerplate text such as my snail-mail address, web URL, and more (\$US30; see “Hot links”). (Disclosure: I wrote the manual for the latest version of iKey.) • Adam C. Engst

SOFTWARE WE CAN'T WORK WITHOUT

Apple's Mail and Microsoft's Entourage 2004 are powerful e-mail clients, but they can't do everything you might want. Thankfully, both apps support AppleScript, so clever scripters can provide us with downloadable scripts that add features. Even better, you can assign keyboard shortcuts to these scripts for quick execution.

Entourage. There's a thriving community of scripters for Entourage. If the scripts I've listed here aren't enough, check out ScriptBuilders (see "Hot links") and The Entourage Help Page (see "Hot links") for more. All Entourage AppleScripts should be installed in `/your user folder/Documents/Microsoft User Data/Entourage Script Menu Items`.

Categorise duplicate contacts. Do you sync Entourage to a PDA? Do you end up with duplicate contacts? This Allen Watson



Quick text. With the Insert Notes script, you can quickly add small bits of boilerplate text to e-mail messages.

script (see "Hot links") finds dupes and assigns them to a new Duplicate category; you can then decide what to do with that category's entries.

File messages in folder. If you've got lots of folders and subfolders, filing them by dragging them to a folder or clicking on the Move button can be a hassle. File Msgs in Folder, another Allen Watson

script, lets you file messages by pressing a keyboard shortcut and then typing the first few letters of the desired folder's name.

Insert Notes. This script from Barry Wainwright (available from Scriptbuilders — see "Hot links") lets you place frequently typed text in Entourage Notes, which you can insert into e-mail messages.

Send complex HTML with inline files. Complex HTML — tables, CSS, or anything other than basic formatting — is rarely necessary in e-mail. When it is, Rob Buckley's Send Complex HTML

with Inline Files not only lets you send such content but also embeds images and other files referenced by the HTML in the message (see "Hot links").

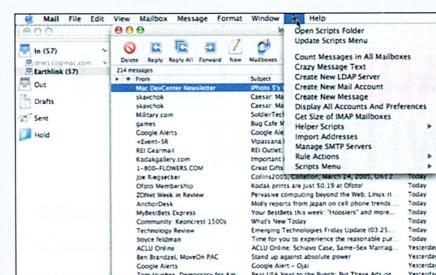
Sync Entourage—Address Book, Sync Entourage—iCal. Even if you're a big Entourage fan, you may want to use it with iSync and other software that takes advantage of OS X's Address Book and iCal data. These handy scripts from Paul Berkowitz synchronise your Entourage Contacts and Calendar with OS X's personal information applications (\$19 each; see "Hot links").

Mail. Mail doesn't have the same scripting enthusiasm behind it as Entourage does, but there are still some great scripts out there. Mail scripts belong in:

`/your user folder/Library/Scripts/Mail Scripts`.

Built-in scripts. Apple provides a slew of useful scripts with OS X; they're available from Mail's Script menu and documented online (see "Hot links").

Show Flagged Messages, Show Unread Messages, Show All Messages. Ever wish you could view just unread messages in Mail? Or just flagged messages? In Tiger (OS X 10.4), Mail has smart folders that let you do both. You can get these features in OS X 10.3, thanks to MacOSXHints.com: the Show Flagged Messages and Show Unread Messages scripts do just what their names say; Show All Messages restores the standard view (see "Hot links"). • *Dan Frakes*



Thanks, Apple. Don't ignore the scripts that come built right into Apple Mail — they include tools for importing addresses from other e-mail clients and for configuring remote mailboxes.

motion by clarifying, asking questions, offering help, or even saying "I don't know." You can always write more later.

The point of all this is to stay focused on doing just the work each message requires. That, in turn, means less time treating e-mail as an end in itself and more time using it as the tool that it is. • *Merlin D. Mann*



Adjust your timing. Stop checking your e-mail every five minutes. Instead, set your e-mail client to check less frequently — ideally, every hour.

Timing. A surprising number of people set their e-mail programs to check for mail every minute. That's building 500 interruptions into each workday. As a quick experiment, look back over your last two weeks of e-mail and count the messages that absolutely required a response in less than sixty seconds. My guess is that you won't find too many.

The key, then, is to retrain yourself. First, adjust your e-mail program to check for new mail once every hour. (In Mail, that setting is in the General preference pane; in Entourage, it's in Tools: Schedules.) If an hour is just too long, you can try something like every 15 or 30 minutes (see the screenshot "Adjust your timing"). Then start batching your e-mail work into hourly "dashes" of eight to ten minutes at a go. You can use that time to sort new messages, send the replies you can, and then get out.

Keep it short. Finally, when you do respond to your mail, keep your answers as concise as possible. Don't sit on old mail because you dread crafting a long response. Just keep the ball in

SIX STEPS TO FAST MAC TROUBLESHOOTING

When something goes wrong with your Mac, all you care about is getting it fixed fast.

Maybe you're on the road with your PowerBook and you need to give a presentation in an hour — you don't care why something went wrong, or even what the best long-term solution may be. You just want to get your Mac working well enough to see you through the meeting; you'll worry about the rest later. For such stress-filled times, here are the quick-and-dirty troubleshooting steps you need to follow.

Restart. If your Mac's performance has slowed to a crawl, or if your applications are freezing, restarting is often all you need to do to get back on track.

SOFTWARE WE CAN'T WORK WITHOUT

DragThing. When I configure a new Mac, the second thing I install (after the latest version of Mac OS X) is James Thomson's

DragThing. With this palette-based launching utility, I can create any number of palettes that can hold anything I like — applications, documents, URLs, folders, and more. I can then assign hot keys, view the contents of folders, quit and force-quit applications, switch applications while hiding others, and move items to the Trash (\$US29; see "Hot links").

You Control. You Software's You Control lets me pack a load of helpful utilities into menus conveniently hidden in the corners of my Mac's desktop (or invoked via a hot key). My You Control menu includes a weather module, a news reader, an iTunes controller, a calendar, a list of recent items, a list of mounted volumes (with hierarchical menus), and a list of the users I've created on my Mac (distributed by Pica

In Control. You Control lets you control iTunes, as well as all sorts of system functions, from menus.

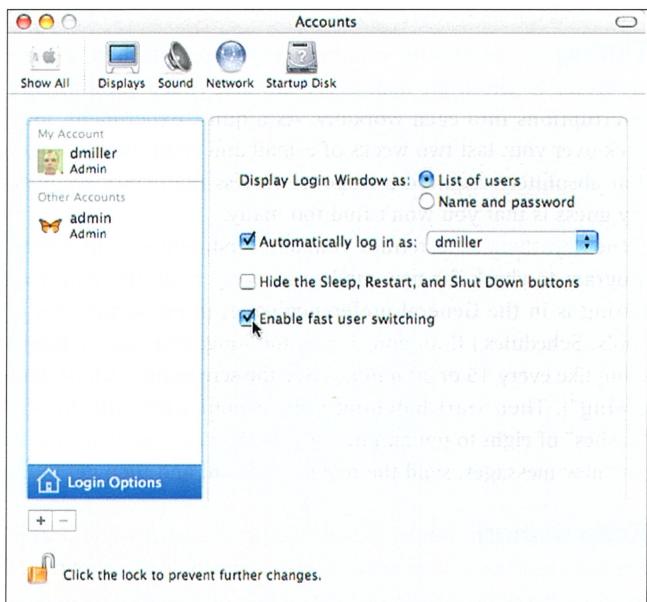
hot key). My You Control menu includes a weather module, a news reader, an iTunes controller, a calendar, a list of recent items, a list of mounted volumes (with hierarchical menus), and a list of the users I've created on my Mac (distributed by Pica Software; see "Hot links"). • Christopher Breen



Log in with Startup Items disabled. Log out of your account and log back in — but hold down the shift key when clicking on the Log In button. Continue to hold it until the desktop background appears. You've now disabled your Startup Items, the applications that load automatically when you log in. If one of these items was causing a conflict with the software you were trying to use, you should now be good to go.

Switch to a clean account. Log in to a separate account, ideally a test account set up in advance for just such occasions.

A clean break. If restarting your Mac doesn't help, try logging in to a "clean" account — but first turn on Fast User Switching.



SOFTWARE WE CAN'T WORK WITHOUT

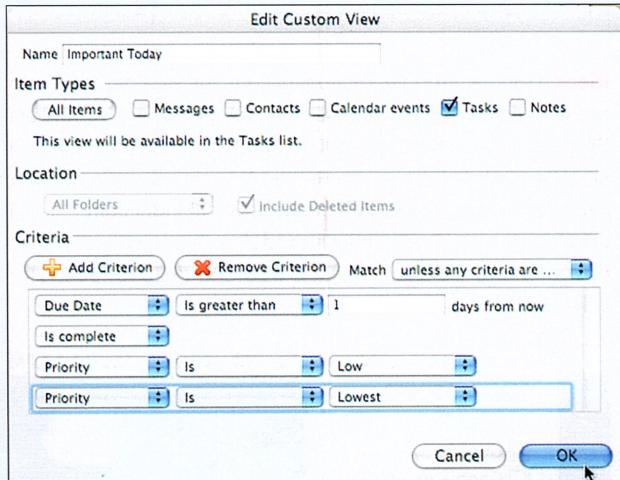
While a lot of Mac users rely on Microsoft Entourage 2004 for e-mail and simple calendar management, many ignore its Project Center. That's too bad, because the Project Center is a powerful project-management tool. Here are some of the ways I use it (as with the advice in "The inbox makeover," much of this advice was inspired by David Allen's book *Getting Things Done*).

Set up filters. Entourage 2004's Project Center is where you collect appointments, tasks, e-mail, notes, and other documents, grouped by project, in one convenient location. The key to making it work is to use Entourage's automatic filtering tools. When you create a new project, you can define filters that tell Entourage to automatically associate specific e-mail messages, contacts, documents, and tasks with that project. Once you identify the key attributes for each project (contact information, likely e-mail subjects, and so on), those tools will automate a lot of your project maintenance, giving you more time to focus on the real work at hand.

I like to create a new Entourage project early in a project's planning stages, because the Project Center's filtering can come in especially handy during a project's ramping-up period, when my task assignments and e-mail messages are typically in a flurry. It helps to be as aggressive as possible about using consistent e-mail subjects for each project (for instance, begin the subject for all "XYZ Corporation" project e-mails with the letters XYZ) — this is especially necessary when you work with the same people on different projects, and therefore can't just file all messages from one colleague as part of a single project. Even if others don't adopt your nomenclature, at least their replies to your messages will contain your disciplined subject lines and be filtered accordingly.

Create new categories. You might find Entourage's preloaded Categories (Work, Personal, and so on) useful, but I don't. I prefer using categories for the specific purpose of identifying where or how each of the tasks in my to-do list needs to be performed. So I use my own categories, such as Errand, Office, Home, Online, and so on. That way, I can quickly identify all the tasks I

A new view. Need to see what's really important in your Entourage task list? Create a custom view that excludes the unimportant stuff.



need to be doing at any given time. If I'm in the office, I need to do the Office tasks and can safely ignore the Home ones. (You can assign more than one category to a given task.)

Customise views for current tasks. If you have more than a few items in your Tasks list, you may find it hard to locate all your high-priority tasks. You can remedy that by using a handy Entourage search trick that finds matches by determining what they are not.

In my Tasks area, I created a custom view called Important Today (by selecting File: New: Custom View). After selecting Match Unless Any Criteria Are, I chose these criteria: Due Date Is Greater Than 1 Day From Now, Is Complete, Priority Is Low, and Priority Is Lowest (see the screenshot "A new view").

You could add other criteria — for instance, to filter out projects that aren't related to work (Jamie's Soccer Team or Barrier Reef Vacation) — but that's the general idea.

Custom views like this are useful throughout Entourage: the time you spend creating a good one will save you countless hours of manual searching and make sure that nothing falls between the cracks.

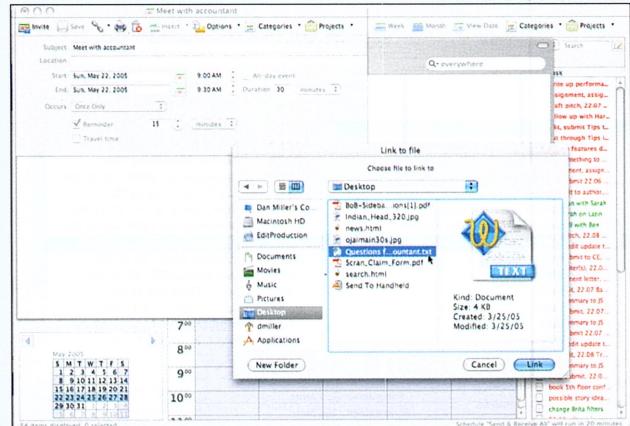
Link to text files. A lot of people (including me) like to maintain information in simple plain-text files. (For example, I keep a list of the questions and issues I want to discuss with someone the next time we meet.) These files are small, efficient, and extremely portable, and you can create and add to them from many different apps.

Entourage supports this habit: it lets you quickly attach any kind of document to tasks, appointments, and other Entourage objects. So I can link my list of questions to the appointment when I'll need to ask them, for instance.

Just pull up the appointment, task, or contact you want to attach your document to. Go to Tools: Link To Existing: File, and then locate and select the text file you want to link to (see the screenshot "Stay connected").

Now you're never more than a couple clicks away from your important text-based information — and that information is always in the appropriate context. • Merlin D. Mann

Stay connected. Linking simple text files to appointments, contacts, and tasks in Entourage lets you keep notes and other context-relevant information close at hand.



To make this go as quickly as possible, use Fast User Switching (enabled from the Accounts preference pane). If the problem does not occur in the test account, it's likely due to a file that affects only your Home account. You can diagnose that later. If you'll need access to a specific document (such as a Keynote file) while in the test account, copy the file to your Public folder before switching accounts.

Do disk repairs via single-user mode. To fix a corrupt directory, the common recommendation is to use Disk Utility's Repair Disk option. The only problem is that you can't repair the current startup volume with Disk Utility. Instead, you need to start up from a Mac OS X Install CD and run Disk Utility from there. What if you don't have an Install CD handy, or what if you don't have time to use one? The quicker alternative is to boot up in single-user mode by holding down ⌘-S at startup. When the text prompt appears, type `fsck -fy`.

This is almost identical to using Disk Utility. When you're finished, type `reboot` to restart the Mac.

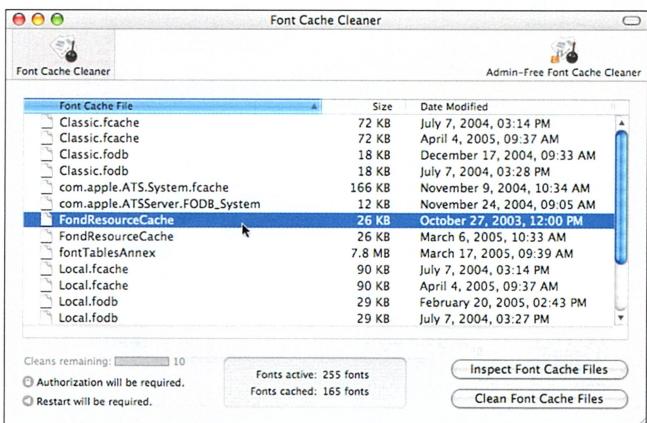
Repair disk permissions. If you're seeing error messages that say you don't have permission to do whatever you're attempting, select Repair Disk Permissions from Disk Utility. You can (and, in fact, should) do this when you boot from the startup volume that is giving you trouble.

Clean up caches. A variety of third-party software can help speed up your recovery time. Having printing problems? Use Printer Setup Repair (\$US20; see "Hot links"); start with its Temp & Preference File Management options. Problems with fonts? Use Font Finagler (\$US10; see "Hot links") to delete potentially corrupt font caches.



Other mysterious symptoms? Use TinkerTool System (\$US9; see "Hot links") to perform tasks such as rebuilding the launch-services database and deleting all system cache files. To be on the safe side, download the software right now so you'll have it when trouble strikes. • *Ted Landau*

Neat type. Font Finagler can speed up your system by cleaning up your system's font cache files.

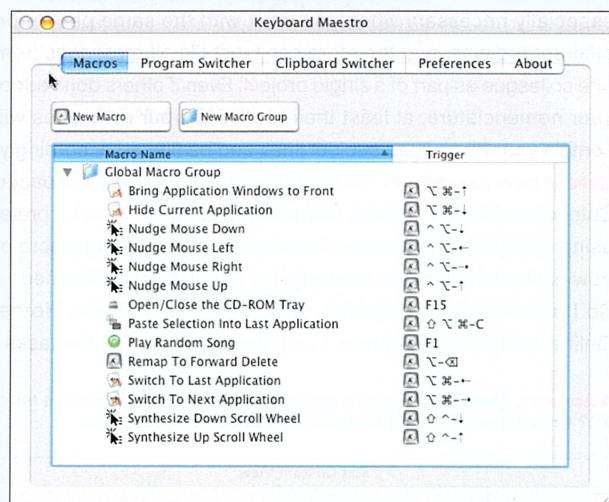


SOFTWARE WE CAN'T WORK WITHOUT

WireTap Pro. I admit it, I have a weakness: I'm a radio junkie, the kind of guy who will sit in his car until a program is over rather than turning off the radio and going in to work. Unfortunately, sitting in the car for hours isn't exactly productive. So I use WireTap Pro, from Ambrosia Software. Like EyeTV for the web, this little app can record my favourite audio streams. It'll record audio on schedule and, once the recording is done, save the results in one of several audio formats. It can even save the audio into an iTunes playlist (\$US19; see "Hot links").

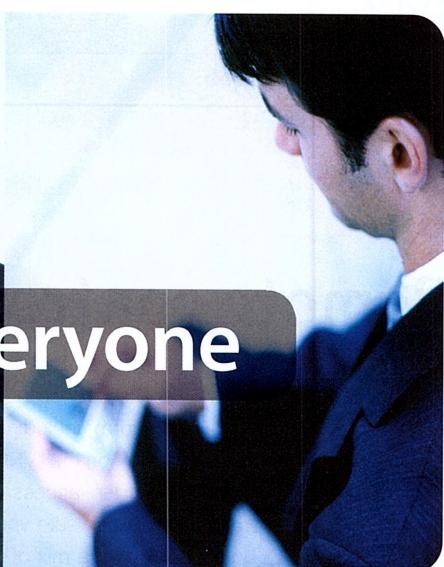
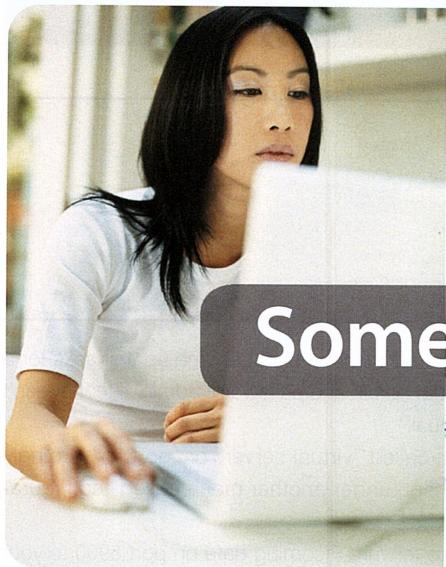


Keyboard Maestro. Call me a heretic, but I think OS X's ⌘-tab application switcher stinks. It's poorly designed, poorly implemented, and ugly as sin. My favourite program-switching app? Stairways Software's Keyboard Maestro. With a simple, user-customisable interface, it lets me switch among open apps and windows, launch or close applications, and kick off time-saving macros (\$US20; see "Hot links").



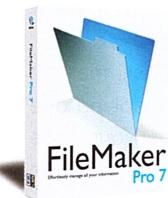
iSeek. Google, Froogle, Dictionary.com, the weather in Fiji: No matter what kind of web search I need to do, Ambrosia Software's iSeek lets me run it and grab the information from a single search field in my menu bar. If I want to run any other searches — say, first-edition books at BookFinder.com — I can create my own iSeek search modules or download any of dozens more from Ambrosia's web site (\$US15; see "Hot links"). • *Jeffery Battersby*





Something for everyone

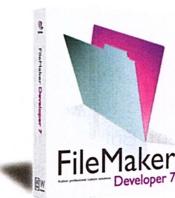
Mix and Match - desktop, server, handheld, and Web.
Choose the mix that's right for you!



FileMaker Pro 7

Effortlessly manage all of your information

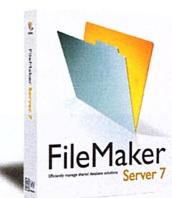
FileMaker® Pro 7 software helps you easily manage and share your information. Store up to 4,000 times more data than prior versions. Import, export and store virtually any file type. Share information with five simultaneous users and become immediately productive with 30 Starter Solutions.



FileMaker Developer 7

Build better databases faster

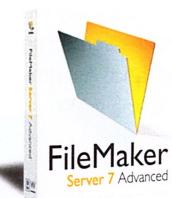
If you develop FileMaker databases in-house, FileMaker Developer 7 can save time and money. With new and improved features, including custom functions, database reports, script debugger, and customisation options, it streamlines development, and helps you troubleshoot more effectively.



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By Dan Warne.

**Hot Links**

www.staticclling.org
Free Mac-friendly dynamic DNS service

6. The router configuration interface should come up. If it asks for a password, try username: admin and password: admin. If that doesn't work, consult the manual.

7. Look for an option called "virtual server" or "port forwarding". This may be a sub-menu under another menu called "configuration" or similar.

8. Create a new rule to forward incoming data on port 5900 to your Mac's IP address, noted down in step 3.

9. Remember to click save so the rule becomes permanent.

10. Go back to System Preferences and check your Firewall settings (under the Sharing preference pane). If your Firewall is switched on, you will need to tick the "Apple Remote Desktop" item to allow requests through.

Incoming screen sharing requests on port 5900 will then be forwarded to your Mac. So that's solved one problem. But how do you know what your home internet IP address is when you're away from home? That's where a domain name comes in handy. However, for many people, the annual cost and the tricky configuration makes this option overkill. Fortunately, there are services on the net that will give you a free domain name as part of their main domain, for example danwarne.dyndns.org. You then run a small background piece of software on your Mac, and each time your public IP address changes, the software updates the domain name to point at the new address.

A good, Mac-friendly service is StaticCling (see "Hot links"). Go to the site, click "new" and then fill in the simple form that asks for your name, e-mail address and the domain name you want. If you type johnsmith, for example, your domain name will become johnsmith.staticclling.org. StaticCling will send you an e-mail in which you need to click a link to validate your registration.

Then, download the app called StaticCharge from the "clients" section of the StaticCling site. Fill in your hostname (e.g. johnsmith) and password. Rather than filling in the IP address manually, go to its preferences, and tick "use gateway address". This will automatically query your modem/router for its public IP address and as long as you leave it running, it will automatically update your StaticCling domain name to point at the right IP address.

Now, you should be able to download a VNC viewer app (such as WinVNC for Windows or VNCViewer for Mac) and in the address field, simply type in your StaticCling domain. If all goes well, your Mac desktop should appear on the screen and you'll be able to interact with it (albeit sluggishly) as if you were at home. ☺

Dan Warne is passionate about the state of broadband in Australia.



Remote control freak

In last month's NetWorth, I revealed that simply installing Apple Remote Desktop Client 2.1 makes it possible to access your Mac's screen remotely from any platform, including Mac, Windows and Linux. All that's needed is to switch on the "VNC viewers may control screen with password" option under "access privileges" in Remote Desktop Client 2.1 preferences. Make sure you choose a password that's very tricky to guess, including a mix of upper and lowercase letters and numbers because the last thing you'd want is an anonymous internet user to have full control of your machine. Ensure the overall "Apple Remote Desktop" item is enabled under Sharing in System Preferences.

Although remote screen sharing will theoretically work on dial-up, Mac OS X's graphically rich interface makes screen sharing unbearably slow on anything other than broadband. Assuming you've got broadband, there are now a few more steps you need to undertake to make your Mac easily contactable from anywhere on the net.

Most people are at least vaguely aware that their Mac has an internet protocol (IP) address that identifies it on the home network. This is usually set by the modem/router which hands out IP addresses to computers at home when they're switched on. A typical example is 192.168.0.2 (with the modem/router itself occupying the 192.168.0.1 address.)

What most people don't know is that they also have a second IP address, and that's the one supplied by your ISP for your internet connection. A typical example is 154.23.175.21. If someone on the internet tries to contact this IP address, they will be connected directly to your modem/router, but in their default state, your modem/router will reject this unsolicited incoming request.

You need to link these two IP addresses together, so your home modem/router to forward incoming screen sharing requests from the internet to your Mac's ethernet or Airport IP address. This is called a "virtual server" or a "port forwarding rule". However, before you set this up, there's a third networking concept to understand, and that's "ports". Think of a port like a loading bay in your computer. For example, Mail gets delivered on port 110, and gets sent out on port 25. Web browsing happens through port 80. The VNC remote screen sharing we're concerned with comes in on port 5900.

So, to set up a port forwarding rule on port 5900, here's what you need to do:

1. Go to system preferences, network settings.
2. Double-click on the active network adaptor, indicated by the green dot.
3. From the TCP/IP tab, note down your IP address.
4. Note down the router address.
5. Open Safari, and in the address bar, type in the router address.

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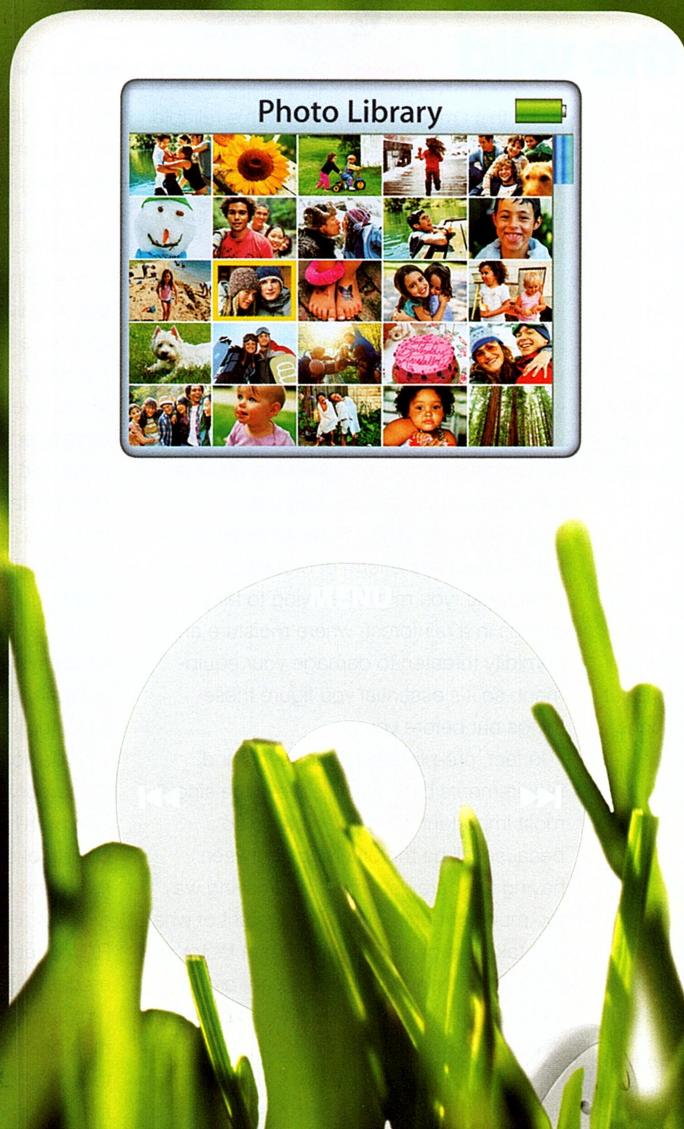
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07.2004

The Hub

YOUR DIGITAL LIFESTYLE



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Shooting in the wild

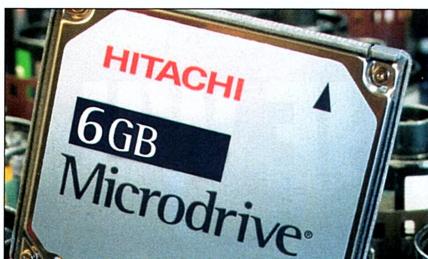
Charge it. Coming in a portable form factor, the Solio can store hours of power.

HERE aren't always phone lines or power outlets in the world's more remote areas. Ironically, of course, it's in the more secluded parts of this world that we're likely take our most interesting and impressive photographs. Taking photographs in the wild — desert, forest, mountain, on the streets, wherever — requires you to be sure of what you want and what you're willing to do to get it. Rather like a complex engineering problem, trade-offs have to be made to accomplish a result where you're able to get the quality you want, while also trying to keep the weight and cost down.

How do you prepare for that kind of photographic excursion? What steps do you have to take to ensure that you won't run out of power or storage while you're cut off from the world? Also, what precautions should you consider before taking your expensive equipment out into what can be quite hostile terrain?

Scoping it out. No matter what gizmos and tech you decide to take with you, it will come to nought if don't do some research on where you're going and how long you plan to be cut off from "civilisation"

Size matters. Hitachi's minuscule 6GB Microdrive.



— by this I mean somewhere with a reliable power grid and decent internet access. Will you be away for a week or a few months? Is the country or region you're going to noted for having unreliable power?

Another thing you have to figure out is what kind of terrain you'll be entering. If you're going into mountainous regions, will your equipment be able to cope with the difference in air pressure? Are you going somewhere dusty? Some of the more remote parts of Australia are exceedingly dusty, and the last thing you want to do is drag your PowerBook and digital SLR into these situations without some form of protection.

Likewise, you might be trying to take photos in a rainforest, where moisture and humidity threaten to damage your equipment, so it's essential you figure these things out before you go.

In fact, pre-planning your needs and requirements before you leave is the single most important thing you have to do because it'll be the difference between having the bare essentials and having way too much or not enough. The weight of what you take is a particularly important factor as that can hamper your ability to get around in these different types of terrains, so be wary of being overloaded.

Finding the space. A wide selection of memory cards is available, some of which can store up to 1GB of data. If you're willing to trade off image quality for the added convenience of having more photos, then one or two very large memory cards may be all you could ever need. In fact, SanDisk offers 1GB SD cards for around

only \$180, and the company also offers 4GB CompactFlash storage cards which you can pick up for under \$500.

One of the advantages in going for a large solid-state memory card is that it requires very little power to run — something that will become very important to you as you're cut off from a regular power supply.

Another alternative along these lines is a Microdrive — technology that was originally developed by IBM, but is currently being produced through Hitachi. Back in February, Hitachi started shipping its 6GB Microdrive in the US and priced the one-inch version at just \$US499, making it quite a cost-effective way to get a lot of storage into a CompactFlash form factor. Local company eXpansys Australia (see "Hot links") expects to be shipping the product by June and will sell it for \$1,165.

While you can certainly stock up on loads of memory cards, the cost can start to get a little prohibitive once you push past a couple of extra cards. The other problem is that many digital SLRs (and some compact digitals) are capable of producing TIFF and RAW image files that can be several megabytes in size for each one — you can run out of space real fast. If that's the case, then perhaps the best way to go would be to look at a portable hard drive of some sort that can easily capture your digital photos for later usage.

For most Mac owners the ideal solution is Apple's **iPod photo**, thanks to its integration with iPhoto and seamless synchronisation via iTunes. Plus, it's the best option if you also want to listen to some music while you're out in the wild.



Burning up the highway. Delkin's portable and rechargeable DVD Burnaway gives you loads of cheap storage in the wild.

Currently, the iPod photo comes in two sizes: a 30GB version worth \$499 and a \$649 60GB version. In order to get your photos onto your iPod photo without the use of your Mac, you need to get some sort of adapter or interface that will allow you to transfer these onto the hard drive. Apple recently released the iPod Camera Connector, which enables users to connect their digital cameras directly to the iPod and import their images across, as well as view them on the iPod photo's 2-inch LCD display. At only \$48, buying the iPod Camera Connector is a bit of a no-brainer, and will be particularly useful to those users who want loads of storage on the road.

If you happen to have an iPod, not an iPod photo, then there's still hope because you can pick up **Belkin's Digital Camera Link** for iPod. For only \$110, the Digital Camera Link allows you to connect your digital camera to any type of iPod, except the iPod mini.

One thing to look out for is that the Digital Camera Link requires two AA batteries — Apple's Camera Connector doesn't require any — so you have to make sure you've got the power issues sorted out with that. Also, the Digital Camera Link is compatible with a fairly limited range of cameras.

What are your options then? Well, thankfully, Belkin provides the answer again with its **Media Reader** for iPod. Again, this is only compatible with iPods with a Dock Connector — not iPod minis — but it allows you to transfer the contents of your memory cards directly onto your iPod's hard drive. The Media Reader supports CompactFlash, SD, MMC, Memory Stick and Smart Media cards, but requires four AAA batteries to operate, so



I can read it all. Belkin's iPod card reader lets you get pics off your memory cards and onto an iPod.

that's another set of power issues you have to worry about.

At just \$139, the Media Reader is a particular useful way to get your photos (and any data) onto an iPod, though it won't allow you to review them.

If you're looking for a portable hard drive that has a better LCD screen for viewing your images, then perhaps the **Nikon Coolwalker MSV-01** is more what you need. The stylish Coolwalker incorporates a 30GB hard drive and supports CompactFlash and SD (using a CF adapter) memory cards. The 2.5-inch LCD screen gives you a better idea of how your images have turned out than the iPod's smaller 2-inch display. One of the downsides to the Coolwalker MSV-01 is the price, since it

retails for \$899, according to Nikon distributor Maxwell (see "Hot links"). However, some online sellers are selling it for around \$780, so it's worth looking around before you buy.

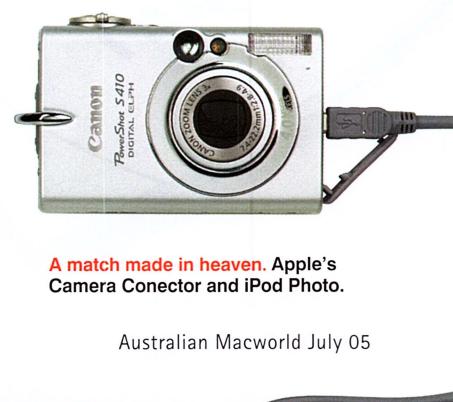
Still another option well worth considering is **Epson's P-2000** "Multimedia Storage Viewer". Incorporating the largest viewing screen of the three devices mentioned here (3.8 inches), the Epson also has the brightest and clearest display. It has a larger hard drive than the Coolwalker, at 40GB, and can accept either SD or CF cards without an adapter. It's compatible with the RAW formats from a range of manufacturers and can also print directly to certain Epson printers. You can also connect it to your Mac via USB, but it

doesn't synchronise with iPhoto the way an iPod does. Like the Coolwalker it's on the pricey side at \$899. Between the two of them it's a choice between compactness (in which case the Coolwalker wins) or picture quality (in which case Epson has it cold).

Both the Coolwalker and the P-2000 are able to play MP3 music files, but don't confuse them with MP3 players like the iPod — there is no integration with iTunes, no way to build playlists, no "shuffle" function. These tools are designed for photographers on the go. In their favour, both the Epson and Nikon devices can display detailed histograms of your images, so you can figure out without having to load images into iPhoto whether you'll be able to adjust flaws in post-production, or whether you need to reshoot. The iPod photo has no such capability.

In making your choice between the iPod photo and either the Nikon or Epson devices, consider how important it is for you to be able to play music on the go. If you're after a music player that will also hold onto your pictures for you, the iPod photo has no competitor. If your priority is photography

and you don't care either way about the music, spend your money on a device dedicated to the task.



A match made in heaven. Apple's Camera Connector and iPod Photo.

The height of fashion. Some electronic devices come with ratings indicating what altitudes that they're designed to work at. With hard drives, this is more of an issue as the drives themselves have to be hermetically sealed, and this can possibly be affected at lower air pressures (i.e. higher altitudes). So if you're planning on doing a bit of mountain climbing, the best option is to go with a portable CD/DVD burner.

Fortunately, Delkin offers the **Burnaway** and **DVD Burnaway** products, portable disc burners with a rechargeable battery. More importantly, these Mac-compatible disc writers can accept a variety of memory cards, including CompactFlash, Microdrive, SD, MMC, Memory Stick, Memory Stick Pro, Smart Media and xD-Picture Card (with an adapter). This makes these drives ideal for storing loads of information in an inexpensive and non-volatile way. You simply plug in your memory cards and you can burn the contents of them directly to optical disc. As the names suggests, the DVD Burnaway is capable of writing DVD discs, while the Burnaway writes to CDs, and both products support multiple session writing, so you can keep adding photos to a disc until it gets filled up. The Delkin Burnaway costs \$493 while the DVD Burnaway is priced at \$679, and more information is available through local distributor Baltronics (see "Hot links").

Scotty, I need more power. Of course, one of the big issues with being cut off from the world is that of power. Simply put, you need energy to keep your digital cameras and storage devices going, and even perhaps your PowerBook or iBook (if

you take them). As was mentioned earlier, however, the more you want to take, the more you have to bring

along to maintain it.

Cameras require relatively little power, and even the portable hard drives and disc burners aren't too bad with energy needs — but a laptop requires serious grunt.

You can choose to go with rechargeable batteries for your camera and use solar power to recharge them. Ideally, if your camera takes AA batteries, you want to get your hands on some 2400 mAh (milliamperes per hour) rechargeables. They cost a fair bit, though you can pick up a pack of four AAs for about \$25. These batteries pack plenty of juice and are designed for the harsh demands of devices such as digital cameras. Keeping a good supply of these for your camera is a must if you plan on being out in the wilderness for a while.

Should you find yourself without power, then the sun can help you out. Chief among the solar options available is the \$149 **iSun** by ICP Solar (available locally through Multi Powered Products — see "Hot links"), a great portable solar panel device that folds up to be quite compact. The iSun comes with a variety of tips that enables you to connect it to a range of small devices so that it can recharge them. There's even a tip that has a female cigarette lighter attachment that means you can plug your devices into it even if you only have a car charger connection. The \$65 BattPack, which plugs directly into the iSun, enables you to charge up to 10 AA batteries.

Another important thing to remember with the iSun is that you can get more than one and connect them to each other in a kind of daisy chain, thus giving you more solar power for your charging needs.

How about storage? The sun is great for



electricity on tap, but it isn't always sunny, is it? Having a few charged-up batteries on hand will save you from many a tight spot. A company called Solio (see "Hot links") has released a solar rechargeable device designed to work with the iPod. The **Solio charger** can be used for a variety of devices, but has a connector that allows it to be used with a number of iPods (excluding the iPod mini). More importantly, the Solio comes with its own internal battery, which can be used to charge or help power devices. According to Streetwise, one of the local retailers of the \$160 Solio, the solar panels are able to recharge an iPod's battery in around two hours in direct sunlight, while the Solio's own internal battery takes up to about 10 hours of direct sunlight to juice up.

So if your camera's taken care of and so is your portable storage, is it worth bringing an iBook or PowerBook? For many, the added weight just wouldn't be worth it for most conditions, particularly if you're going to be far away from a vehicle. Also, the climatic conditions are a serious factor. Apple states clearly on its web site that prolonged exposure to temperatures over 35°C could cause your laptop's battery problems. Also, if you're trekking up a mountain, Apple's notebooks are only rated to around 10,000 feet, which is fine for most people, but not for serious mountaineers.

If you just have to have your portable Mac with you at all times, then there are solar chargers which can keep you supplied with enough power. PowerQwest's Sun Catcher





Expedition, at just \$535 and available through eXpansys Australia, can keep your iBook or Powerbook running for a long time away from a power grid.

Things to keep in mind. In most hostile terrains, the environment is likely to do nasty things to your delicate electronic equipment. One of the simplest solutions for this, particularly for your photographic equipment, is to see if there is an underwater housing available for your specific

model. Many camera manufacturers have optional underwater housings for their cameras, and this is great for keeping moisture as well as dust out of your equipment. A local company, ewa-marine Australia (see "Hot links"), provides rain capes

and waterproof bags (rated for different depths) for both still and video cameras, and has a comprehensive list of what products will fit which devices. However, if you're using a housing or weatherproof bag, be sure to keep some sachets of silica gel inside the unit to keep the interior of the bag from forming condensation, which could affect your camera.

If you're skating the edge of your power requirements on any trip, test your camera beforehand and check your shots. Early on, you should try to establish that the shots you're getting are the ones you want by using the LCD screen on the back of your camera. Once you've made some preliminary checks, disable your display. Limit the use of your LCD screen as much as possible, as it will drain the battery. Also, try to restrict how many times you use the flash. In some circumstances, it'll be unavoidable, but be mindful of how much power each flash will cost you.

Final words. The key to shooting in the wild is sorting out what you need and deciding on how much you can take. Digital SLRs are great and produce great shots, but require a hefty power charge. If you don't feel like pouring out money to get a heavy duty solar charger — and in some circumstances, they're just not practical (cloudy weather, deep rainforest) — then think about getting some extra fully charged batteries with you. If you use your power conservatively, you can get a lot of use out of a digital SLR's battery. If you want to go lighter, then you can think about taking a compact digital, perhaps with an iPod to store your pics, and a little Solio or iSun charger to keep everything going.

The choice is yours. Just be sure to plan ahead. ☺



Cool walking. A 2.5-inch screen and 30GB in your pocket makes the Nikon an excellent picture storage tool.

Eliminating the dust

Not for nothing is Australia called the wide brown land. Of course, one of the major problems with shooting anything in Australia's more remote areas is the dust (and sand). If you want to take great shots in the middle of Australia, though, you'll want your digital SLR in there — even knowing what havoc the dust may play while you're changing lenses.

That's where Olympus's eight-megapixel E-300 digital SLR promises to be a great help. Olympus has developed an innovative system called a Supersonic Wave Filter, which is designed to prevent dust getting onto the CCD. The filter generates ultra-high speed vibrations to dislodge dust from the CCD, so that it can be captured on a specially designed adhesive panel. This feature automatically operates on start-up, but can also be activated manually. At \$1,895, the Olympus E-300 is quite a reasonably priced digital SLR and also boasts a small form factor, which makes it all the more useful for taking into the wild.



Dust buster. The Olympus E-300 gets rid of any dust on your CCD when you start it up.



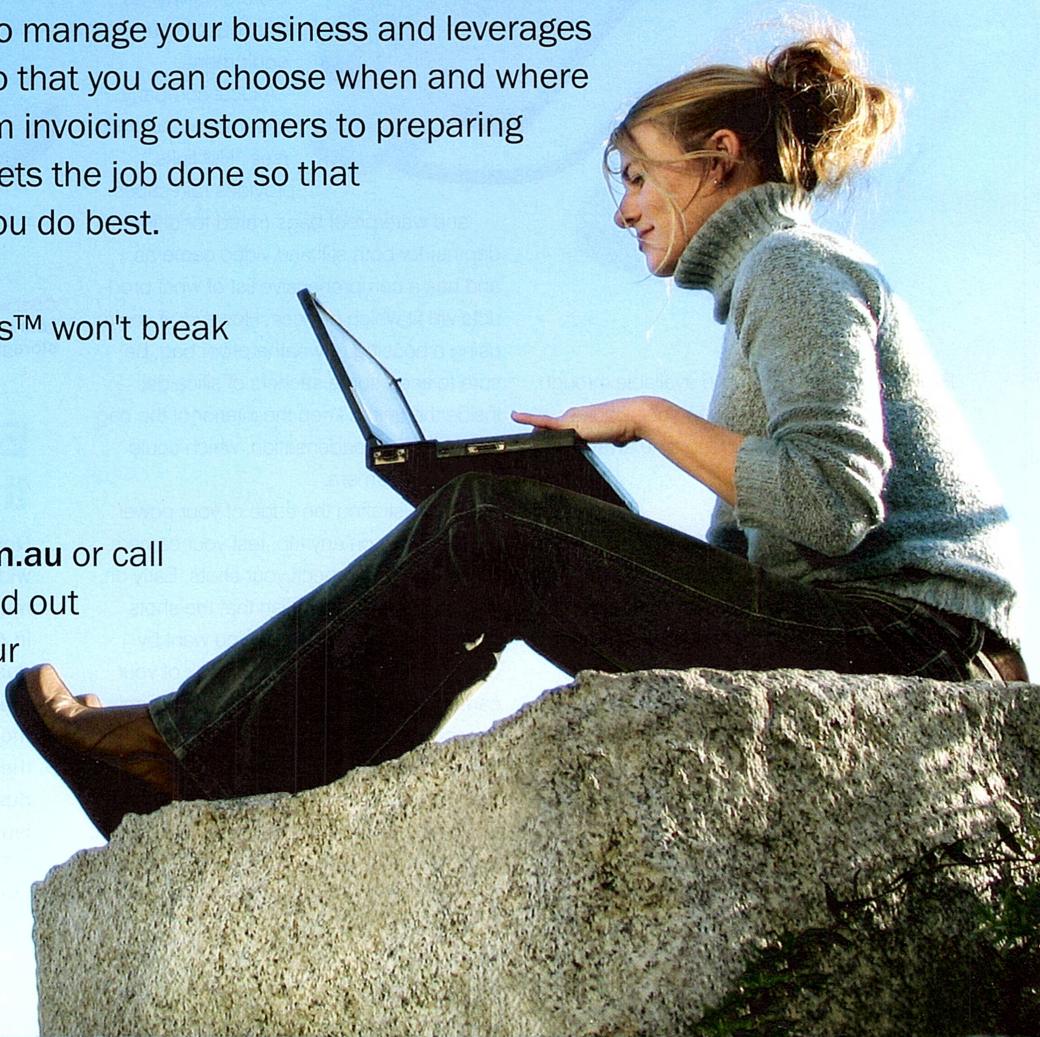
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 Pocket TV
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 BetaPlayer

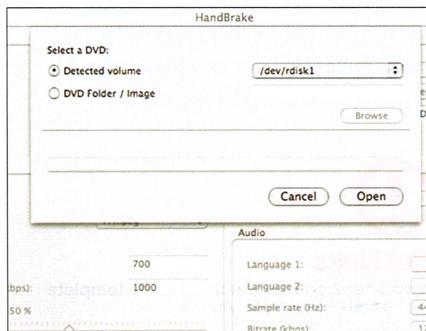
Rip it up! DVDs on a PDA

THE current crop of PDAs is far in advance of its predecessors. Screen resolutions are on the increase, displays are better and CPU speeds are moving ahead each year. With these improvements it makes sense to use a PDA as a portable media centre. However, the problem is that there is very little video content available that's optimised for the PDA form factor. The good news is that you can do something about that.

Use the HandBrake. DVD ripping is one way to create content for your PDA. HandBrake is a free application that rips the content of a DVD and stores the resultant video file on your hard drive. Without any further processing and by using only the default options, a 90-minute movie is converted into a 1 GB file.

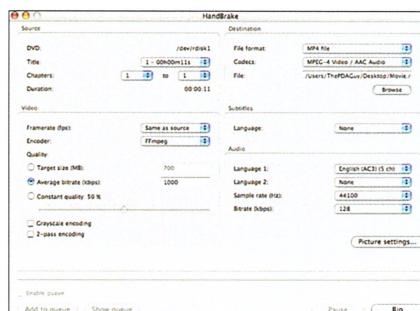
However, PDA screens are much smaller than the display of even the most portable PowerBook or iBook. Also, while 1 GB is not much space for the modern computer it's a huge amount for a PDA that might only have 64 MB of memory. Fortunately, palmOne and the Pocket PC makers all include some sort of storage for us to make use of.

After starting HandBrake you'll need to tell it where the DVD is. You can use DVD images created in iDVD or the Selected Volume option to rip from a DVD. Then you'll need to choose which track on the DVD you'll want to



rip. Hit the Title dropdown list and choose the longest track — that'll be the movie.

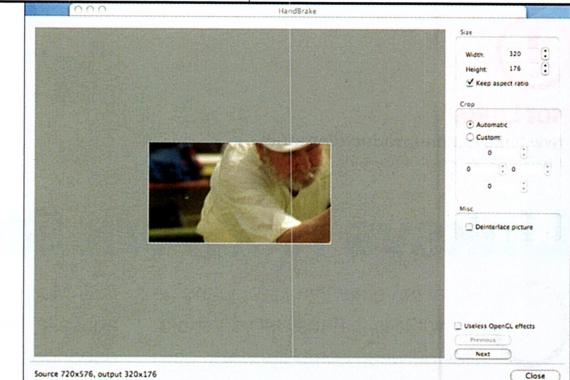
In order to optimise the output for a PDA you'll need to adjust the format, resolution and sound quality for the final result. You can do this after choosing the DVD source. Start by selecting the output format. By default, HandBrake creates MPEG4 files. It also supports other formats such as H.264 and DivX.



Next, we need to match the resolution of the video output with the screen resolution of your PDA. Some good rules of thumb are that most Pocket PCs run at 240x320 with some sporting 480x640, square screen palmOne devices run at 320x320 and palmOne PDAs with rectangular displays run at 320x480. We'll need this to set the output size of the movie.

Click the "Picture Size" button. Set the "Picture width" to the largest aspect of the screen's resolution. For example, a standard Pocket PC runs at a resolution of 240x320 pixels. So, set the picture width for 320. This way you'll take advantage of as much of the screen as possible. As well as optimising the output for your display's resolution, decreasing the Picture Width will reduce the size of the output file. The higher the resolution, the larger the output file.

You can also conserve space by decreasing the quality of the sound output. While 128-bit sound seems reasonable, if



you're watching a film that doesn't have a thumping soundtrack you can get away with a lower rate. Drop the sound to 64-bit as that'll be good enough. Remember, you'll be listening to this through a set of headphones and not a home theatre system.

Once you've set your options click "Rip" button and make yourself a cuppa. Depending on the spec of your Mac the encoding process can take up to four hours. This sort of activity is very processor dependent.

Play time. Transferring the video to your PDA can be a little tricky. You could use your PDA sync software but this won't be the quickest way. I strongly recommend that you invest in a card reader. That way you'll be able to transfer the file directly to the card using the Finder.

With the file ready for playback on your device you'll need to find some playback software. For the Pocket PC there are a couple of good options in Pocket DivX Player and BetaPlayer. Although neither has reached a 1.0 release both are stable and do a great job of playing DivX files. If you've ripped your movie to an MPEG then another piece of freeware, Pocket TV, will do the job nicely. Unfortunately the bundled Windows Media Player only supports .wmv and .asf video formats. For the Palm the most popular DivX player is MMPlayer. All of these applications are free for personal use.

One other thing to consider is that video playback is one of the most battery-intensive operations you can have your PDA do. The processor, video and sound systems are all working hard. If you plan to watch lots of movies on your PDA it's a good idea to start with a full battery and carry a battery extender, spare battery or AC adaptor so that your battery doesn't die just as you're getting to the good part of the movie. ☺

**Hot Links**www.linksys.com/products/product

Linksys Network Storage Link

ONE of the great things about home networks is that they let you share files between computers. You can share a drive on one of the Macs on your LAN but access is dependent on it being connected and logged in.

The Linksys Network Storage Link (NSL) works around this. It connects to your hub or router via Ethernet and provides two USB 2.0 ports for connecting either a pair of external USB 2.0 hard drives or a hard drive and flash memory stick. Unfortunately it can't be used as a printer server.

Although it only ships with Windows software, the NSL can be managed via a web browser. Using Safari I was able to connect to the NSL but only after configuring it initially from a Windows system. This makes it useful in mixed environments but not for Mac-only networks. However, if you're running a Windows emulator like Virtual PC or the open source QemuX you can use

that. Most network appliances are OS-agnostic these days so having one that depends on a Windows application for set-up is poor.

Once the NSL is online you can configure it via any browser. Creating user accounts allows you to provide so that only specific people can access connected devices or you can allow "guest" access so that anyone can connect and read from a shared drive. You can also set storage quotas on accounts so that a shared disk is not monopolised by a single person.

The NSL is able to partition and format connected disks and it also has an inbuilt utility for scanning disks for errors. This maintenance activity can be scheduled to run automatically at a convenient time. While a disk is being scanned, it can't be accessed.

Although the device comes from a reputable company in Linksys, which is a part of Cisco, I was a little disappointed.

Other than the lack of native Mac support for the initial set up, it didn't correctly report the available space on a connected flash disk, reporting it as full when it was almost empty until I reformatted it. Also, the menu structure in the browser configuration tool was confusing with some options only appearing if you followed a specific path. The online help wasn't useful as it only provided assistance for the screen you were on — not how to get to another screen you were looking for.

The last word. All in all, at \$209 the NSL is not cheap but it does achieve its basic function of making shared network storage easily available. However, it lacks polish and could do with some attention with respect to usability and broader operating system support. ☺



O2 Xphone II

MOBILE phones have moved on in leaps and bounds in the last couple of years. From just being a tool for making and receiving calls, they are now pocket-sized multimedia and communications powerhouses with enormous functionality.

O2's Xphone II is a substantial update on the original Xphone. Out of the box it has 64 MB of Flash ROM and 32 MB of SDRAM for storage. While this might seem like overkill for a phone, it's about the right amount of "kill" for this device.

The VGA camera takes reasonable snaps and the inbuilt memory holds in excess of 520 pictures. There's a miniSD slot as well, for extending the storage capability, but unfortunately you'll need to power the device down and remove the battery to switch cards. Images can be shared by MMS or e-mail and you can set an image as the phone's default wallpaper. There's also a version of Windows Media Player in the ROM so that you can use

the Xphone II as an MP3 player making it a handy, portable media centre.

As is the norm for devices running Windows Mobile, there's no out of the box support for Mac users so you'll need some extra software like Missing Sync or PocketMac. To keep you connected to the world there's tri-band GSM and GPRS so you'll be able to make calls and receive e-mail just about anywhere. There's Bluetooth for connecting to wireless headsets and making cable-free desktop connections but it isn't well integrated — there's no easy way to beam a photo or other file from the Xphone II.

The user interface is attractive but takes getting used to. It's based on a Windows paradigm so there's a Start command in the bottom left. Activating that with the hardware button provides a list of programs that can extend to several screens that can be quite confusing at first.

Accessing PIM and contact information is easy from the main screen, which can be

customised. It defaults to a list of today's events and tasks with a summary of your Inbox. A single Inbox holds e-mail, SMS and MMS messages. Data input is through the telephone keypad that accepts T9 input.

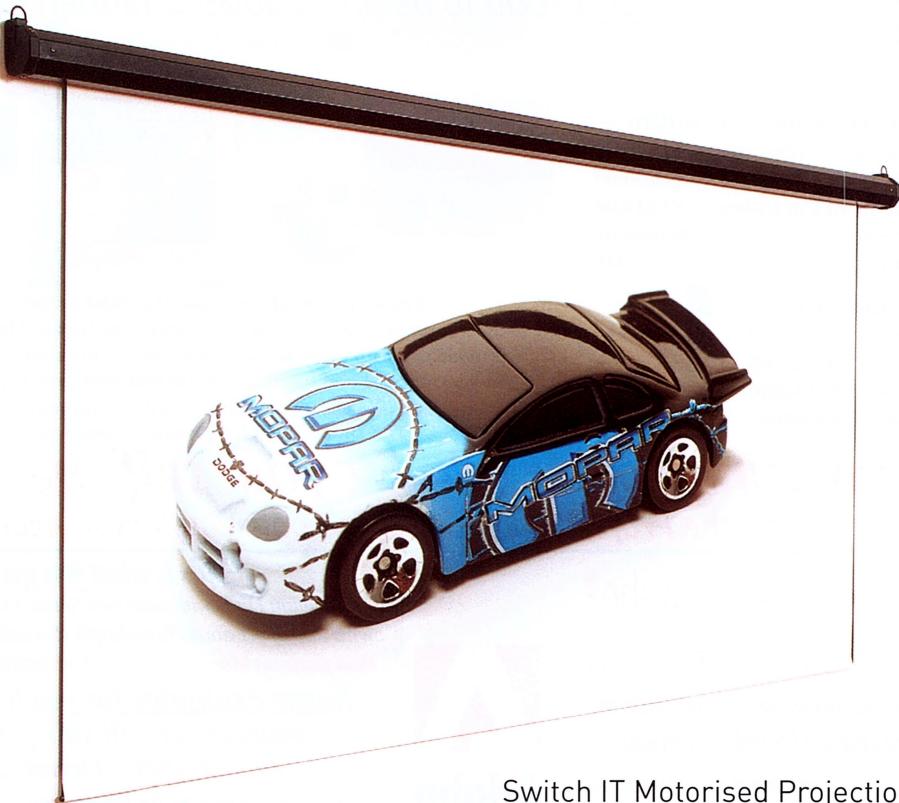
In addition to e-mail there's also a web browser and instant messaging client. While these are in Microsoft flavour, you can download third-party applications to bolster the Xphone II's utility.

The last word. At \$699 the Xphone II isn't cheap, but when you consider that it could replace a PDA as well as phone it does represent good value. ☺

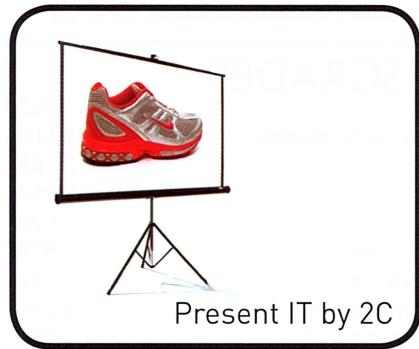
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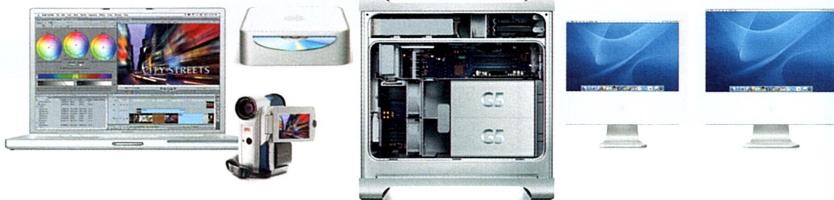
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Adobe® Creative Suite 2 Premium from PS	\$1249	Macromedia® Director (from 8.5+)	\$599
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By David Holloway.



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www.apple.com/macosx/features/coreaudio/
Tiger's audio features

www.digidesign.com

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www.apple.com.au/software

Apple audio products

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Digital Performer

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Live

www.finalemusic.com

Finale notation software

Tiger audio

FOR those of you that remember the large evolutionary step in audio capability that occurred with the advent of OS X, it is sometimes hard to visualise what else could be implemented for the general Mac user that is worth looking at. To some extent you would be right, in that Tiger doesn't deliver the same big bangs we saw with Jaguar or even Panther. However, the two significant new developments are worth noting, as they'll be the foundation for ongoing audio innovation in the Mac sphere.

The first new development within Tiger is the development of a new 64-bit audio format: CAF (Core Audio Format).

Essentially what 64-bit means is that the memory addressing capabilities are much greater than 32-bit. As far as audio goes, what this means is audio files can be a much larger size. As Apple touts in its Tiger documentation, a 64-bit file on a Mac could contain a thousand channels of audio and last for one thousand years. That's one long concept album. Because Tiger is a 64-bit OS, G5-based Macs will also start coming into their own as musicians' tools.

The second feature is device aggregation. This is more of a power-user feature. You can now combine devices within CoreAudio so that they appear as one device within whatever (CoreAudio compliant) application you use. This is quite a breakthrough for anyone using multiple hardware devices, and has been sought after for a long time.

An example of how this would translate into everyday use would be someone who owns a USB keyboard with audio inputs as well as an audio interface like the Mbox or Mackie Spike. There is now nothing stopping

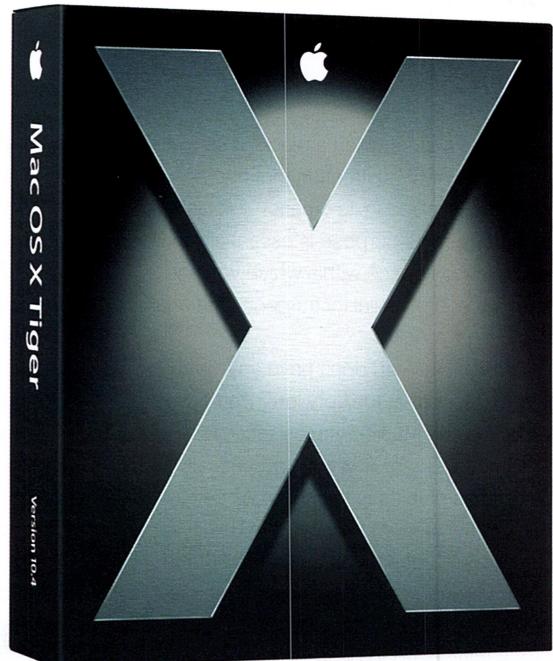
you utilising both pieces of gear at once, giving you many more audio input options without needing to switch manually between devices within your audio application. Compatibility with your favourite audio apps.

Pro Tools LE. At time of writing Digidesign is advising users of Pro Tools not to upgrade to Tiger until an update to Pro Tools LE is released. It should be available by the time, or soon after, you read this from the Digidesign web site (see "Hot links").

Cubase and Nuendo. The official line from Steinberg is that it is actively working on maximising the benefit of Tiger's new features with the Cubase and Nuendo range, and that both did work with Tiger pre-release versions. User reports vary, with the not-surprising consensus that more recent versions such as SX 3 do work quite well, with more mixed results on older versions. Again, an update is likely to be available by the time you read this from Steinberg (see "Hot links").

Logic. As you would expect with the Logic suite now owned by Apple, there is full Tiger compatibility as of version 7.1, which is a paid upgrade (\$30 from the Apple Store) for version 7 users. Before you protest at paying to fix a compatibility issue, the update is more than just a compatibility update — it does contain new features as well.

GarageBand. Both versions 1 and 2 work with Tiger.



Digital Performer. Version 4.52 is Tiger compatible and is the current shipping version. Users of previous versions have the option to pay for an upgrade through one of the many upgrade and cross-grade options. See the MOTU web site for details (see "Hot links").

Ableton Live. is fully compatible with Tiger as of version 4.12. Updates available from Ableton's web site.

Finale. Both Finale 2004 and 2005 are Tiger compatible. There is one issue with some fonts not appearing, with the solution provided on the Finale web site (see "Hot links").

Sibelius. Both Sibelius 2.1.1 and 3.1 work in Tiger.

The last word. even though your software of choice may work flawlessly with Tiger, there's no guarantee every plugin, control surface or interface you use will as well. Like any significant OS upgrade, you will find yourself doing some trial and error work. If you rely on your Mac's music-making abilities to put food on your table, then exercising the usual caution in making the jump is more than justified. ↗



Hot Links

www.plasq.com/rax/ plasq.com/rax/

Download a demo or buy the full version online

Rax

IT'S always great when a piece of software comes to AMW's attention that has Aussies involved in its creation. Rax is one such product. Its purpose is essentially to provide a workspace within which you can play and record virtual instruments that are installed on your Mac.

You may think you don't have any virtual instruments, but at the very least you have the QuickTime Music Synthesiser. If you have GarageBand, Rax will automatically list your effects plugins in its menu. When I checked my instrument list within Rax it listed a bunch of plugins that turned out to be from products we've previously looked at. Not one was missed. One disclaimer: your plugins need to be in AU (Audio Unit) format for Rax to recognise them.

Once you load an instrument into Rax, one click gives you whatever interface that plugin contains, usually a virtual keyboard or a

window that allows real-time tweaking. Aside from allowing you to load in instruments and effects. Rax has full MIDI implementation. This means that you can control pretty much anything loaded into Rax via a MIDI device such as a keyboard.

This links in to one of the main reasons Rax was developed: as a live performance tool. Once you've spent the time setting up MIDI maps for each instrument or effect, then all you need is your laptop and a MIDI controller to run the show.

For the majority of us that don't do live music performances, the same rationale could be applied to the next iMovie project you do. Record what you want with iMovie in playback mode, then export the recording to iMovie. On the recording issue, you can export anything you record as an AIFF file, which then gives you freedom to import your



work into other applications to do further audio editing.

If you're new to Mac-based music making, Rax might be a bit of a learning curve, although it is ideal for anyone wanting to do some audio doodling rather than committing to a composition in a high-end application like Logic or Pro Tools. Given the budget pricing and feature-set, Rax may be a product worth exploring. A particular compliment should be paid to the online help section in Rax — it's nothing short of exemplary and helped me out of a couple of pickles.

Rax will set you back \$US29.95 and is available by download only from the Plasq web site (see "Hot links"). A demo version can also be downloaded. 

iListen and making music

SPEECH recognition software tends to polarise regular Mac users. It labours under the historical burden of accuracy issues and weeks of teaching the application to even recognise some of what you say. However, when implemented well it can give you some serious productivity gains.

iListen is the only actively evolving speech recognition application available for the Macintosh at present, and is based on technology developed by Phillips. It has three modes it can operate in: dictation mode, command mode and spelling mode.

What I specifically wanted to see was whether it would be useful as an aid to making music by decreasing the amount of keyboard and mouse work required when using an application like GarageBand. iListen's command mode allows you to operate applications by voice. Therefore if you say "Open GarageBand", that's what will happen. To make some real gains though, you will need to download a ScriptPak for GarageBand (Version 1 still available for \$US10, Version 2 available by

the time you read this). The ScriptPak provides more than forty GarageBand specific commands you can utilise: from making new tracks and accessing all windows to zooming in and splitting selected pieces of audio.

So why would you bother? If you use GarageBand or other iLife applications regularly, you'll understand the amount of mouse clicking that goes on, and it can really interrupt your creative flow. If you're willing to spend the time getting iListen to learn your voice, then there are definitely advantages to the approach.

There's no getting away from the fact that training iListen is a little bit tedious. It did take me a number of hours, however once done I found using iListen in command mode extremely useful. The dictation mode continued to frustrate me considerably with accuracy issues even after substantial training. Major discipline is required to get the best out of that mode. You will need a USB headset microphone — your Mac's inbuilt microphone won't cut the mustard.

If you want to reduce wear and tear on your hands and wrists or like the idea of voice commands to maximise your creative workflow, iListen is well worth exploring. To make the cost even more worthwhile, there are ScriptPaks for a huge range of applications. developer MacSpeech deserves kudos for continuing to evolve the Australia/New Zealand version alongside other language-specific versions. Myself, I'm still awaiting the holy grail of near perfect accuracy with minimal training of the application required.

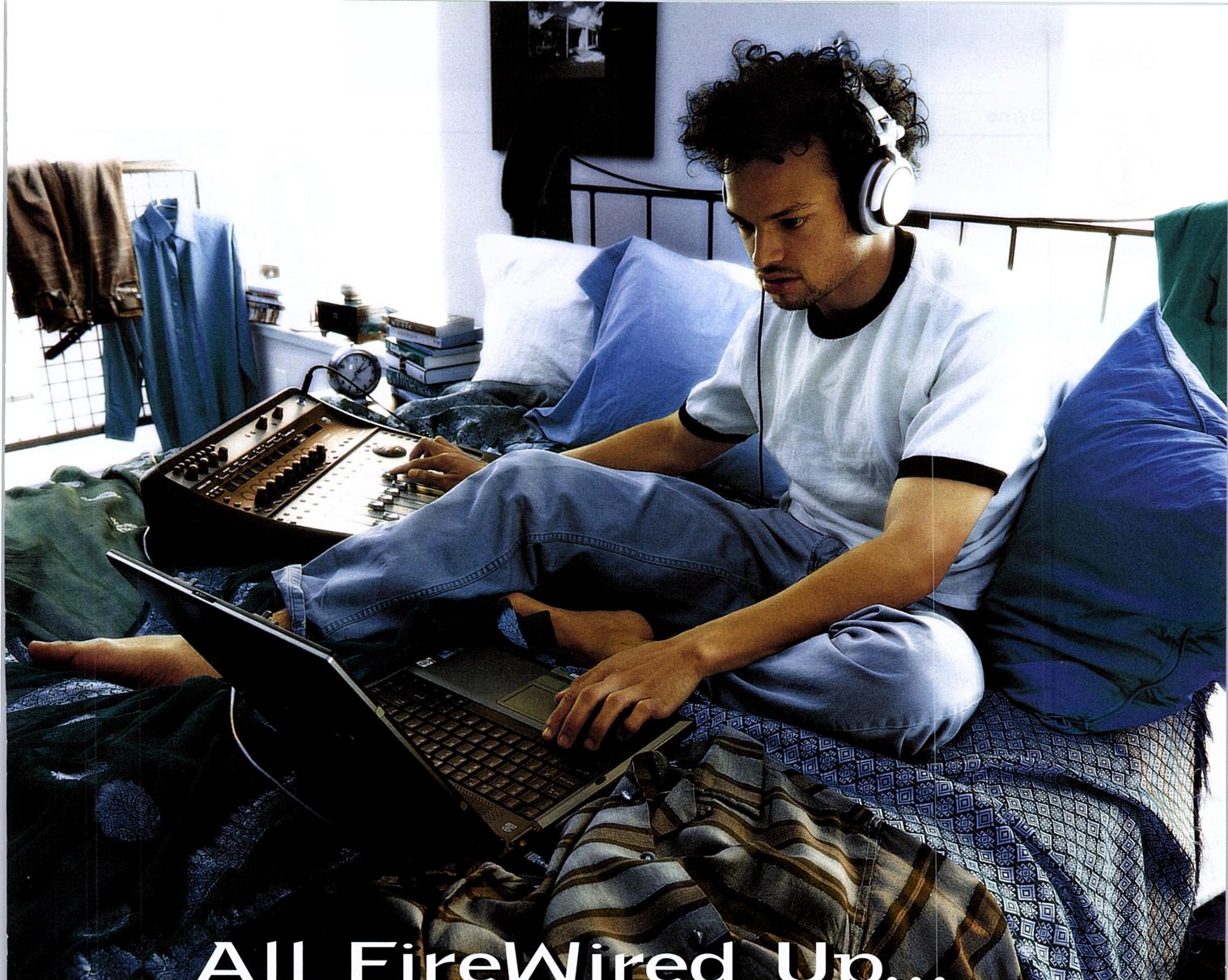
iListen is at version 1.6.8 (Tiger-compatible) and retails for \$199 from Australian distributor is MacSense (02 9798 3288). MacSense also offers bundles that include USB headsets. ScriptPaks are available for download from the MacSpeech web site (see "Hot links"). 



Hot Links

www.macspeech.com

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By Seamus Byrne

**Hot Links**www.babyfoot.net

Michael Gracey's productions

Profile: Michael Gracey

Michael Gracey is an award-winning Australian music video and commercial director. He has directed work for artists such as 1200 Techniques, Will Young, and also the current Cadbury Crunchie commercial.

What gear are you using? We rent in G5 boxes and software licences, gearing up and down depending on the project. It is a really great service offered by a company called InCase — they provide gear all ready to go. You want ten boxes, they just turn up with everything installed and they are ready for artists to start working on.

On set we'd have as many as five Macs: one with Final Cut taking a video split feed, a G5 there as well doing additional work based on stills we'd taken on set; then there would be at least three laptops with people entering data, like digital photos, and one PowerBook playing back the animatic we'd had signed off so people could see exactly the shot we were trying to get.

For screens we use Apple's HD Cinema Displays. Not the ridiculous ones, the one down. We love them. The [30-inch model] is just so comically oversized that I intend one day to have it, but as it stands I'd probably get a tan from working in front of it.

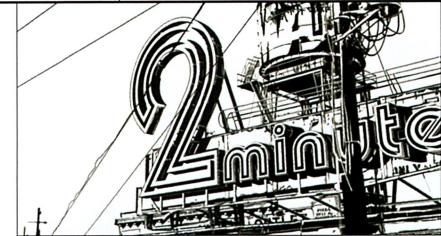
You probably would get two 23s before the 30, just because of real estate. It is kind of good to have the separate screen with stuff on it. It is like everything, like hard disc space: what you've got, you'll always use.

Do you use external monitoring? We're hooked up to one of the Sony HD Wega TVs. That allows us to watch whatever we're doing at HD on a real TV — which is also different from a monitor again, because people don't watch what you're making for them on broadcast monitors. You can get into this world of "oh, it looks so good" and then you see it on TV and you realise you can't see any of the detail.

What is running on your systems the most? The programs we hit every single day would be Final Cut Pro, Photoshop, Transmit for FTPing stuff everywhere and Shake when we've got a project on. Flame and Shake are the two biggest packages we composite on. For the 3D work, we use 3D Studio Max like there is no tomorrow. We get in there and do the work ourselves, which from a directorial standpoint is a really great position to work from because you can really set the look of something.

How do you manage shifting to new software? We always throw one box onto whatever the latest thing is and run it alongside. For example, we've got Tiger on one box at the moment whereas everyone else is on Panther.

We've got QuickTime 7 across the board, though. That we jumped on. We were actually counting the days down for that one. Also when Final Cut HD came out we jumped on that. Every now and then when there is a big jump forward, they're the times you don't play too cautiously.



What are your thoughts on HD? For us, we've produced our last four video clips in HD, even though we've delivered them in PAL. Every commercial job we've done we've done in HD as well. As artists you prefer working on that larger canvas. You have a lot more detail and artistry you can put into each shot. The clients are going to start asking for a high definition finish. The great thing is we're already well ahead of the game.

It is kind of remarkable that HDV cameras have only just arrived and Sony will within a year be bringing out a progressive version. I can't even fathom that a progressive HD camera will be available for \$5,000. Just two years ago you were talking about \$400,000 for a camera capable of shooting that.

We got one of the HDV cameras really early and, because it wasn't supported by Final Cut HD yet, we were pulling it in through iMovie HD. That was the only thing at the time that could do it! Here we are doing really high-end work and we're pulling in footage through iMovie!

Any advice for the readers? Sitting at home working on your Mac, you can't mount a 35mm shoot with three cameras, a big location and a cast of 100. What you can do is draw all that in Photoshop, cut it together in Final Cut, and show people exactly your vision. Key to being a director is being able to communicate your vision. Being on a Mac allows you to communicate vision more clearly than anyone has been able to do in the history of directing. 



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Apple and education in Australia.

By Martin Levins.

Click me

In *Alice in Wonderland*, the instruction was "eat me"; she didn't know what was going to happen, but she did it anyway — a bit similar to how a lot of computer users approach using the web, or perhaps opening an e-mail attachment.

When you think about it (or even if you don't), clicking on a web link allows the remote machine to change the contents of your hard disc as the web page or e-mail document has to be transferred to your drive. We trust this process, doing it without thinking — and it's this trust (or naïveté) that is exploited when a Trojan infects a computer.

As Mac users, we smugly look down on our Windows-using cousins as they battle yet another trojan which contains a mass mailer, adware or spyware infection that will exploit one of the myriad Windows security holes.

Windows protagonists attack our superior position by claiming that it's only Apple's small market share that has deterred malware authors from attacking the Mac. Sounds plausible at first, but look at the furore that erupted when a security exploit in Firefox (the alternative browser that offers much the same functionality as Safari) caused worldwide ructions even though its user base is only five percent of all browsers.

OS X was released nearly five years ago and, similarly to its non-Unix-based predecessors, has yet to be compromised. The main reason, I believe, is not market share, but Apple's default network settings and the requirement that admin permissions be given for any potentially dangerous changes made to the system or system settings — something that Windows has only recently woken up to with Service Pack 2 (although this still doesn't afford the sort of protection we have taken for granted on Macs).

Recently, a Maced list user (Maced is a list provided for educational Mac users) inadvertently clicked on a web page using a Windows machine, which resulted in an e-mail being sent to everyone in his address book (including the Maced list). This just shouldn't happen, we Mac users smugly say to ourselves. The advent of Tiger changed that. Even Apple forgot about the dangers of downloading, concentrating on the wonder of its "Dashboard" feature.

Specifically, Dashboard Widgets (the 21st century Desk Accessory) were able to be downloaded from web sites, install themselves and begin to execute code — all with a single click. Like Alice, early adopters of Tiger went down this rabbit hole, and exposed their systems.



Hot Links

docs.info.apple.com/article.html

Apple fixes the security hole allowing web sites to compromise dashboard widgets

securia.com/advisories

The Firefox security hole is based on its Mozilla foundation

zeus.as.edu.au/mailman/listinfo/maced

Join the maced listserver here

Hubris anyone? This is exactly the sort of thing that ActiveX had been doing for years on Windows, with awful consequences.

Good user interface design is all about predicting the user's intentions and making their experience as fluid as possible, whilst, at the same time, not letting the computer get in the way of what the user wants to do. An excellent topic of discussion for any sentient humanoid and one highly recommended for the denizens of Seattle. The specific problem inherent in providing fluid network access is protecting the user's machine.

This problem is exacerbated by trusting, perhaps naïve, users who want the job done as quickly as possible and will not tolerate impediments such as being repeatedly asked to confirm an action. Who wants to type an administrator password every time something can potentially go wrong?

In this instance the risk is so great that you're advised to turn off "Open 'safe' files after downloading" in Safari's preferences (on by default at the time of writing). Do this for all the machines you use, or perhaps manage (via preference management on the server if this is available to you).

For a belt and braces approach, use the OS X feature called Folder Actions. This will allow you to run an AppleScript whenever a particular folder's contents are modified. Enable

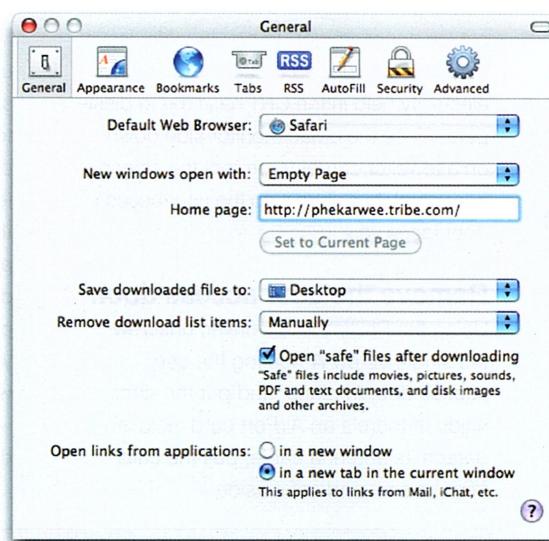
this by control-clicking (or right click if you have a two-button mouse) on the Widgets folder in the user's Library folder. Choose "Enable folder actions" then choose "add — new item alert.scpt".

Now, if anything is added to that folder, an alert will pop up, asking you if you wish to look at the newly-added item.

I think it was my dear old great-grandfather who said never install the first version of any software. The 10.4.1 update addressed this problem in that the system now "blocks the automatic installation of Dashboard Widgets", but this took nearly three weeks to fix following the Tiger launch.

In educational institutions, with typically high-speed internet connections much loved by malware authors, we are particularly vulnerable to Trojan attack and have a responsibility to protect against it. Apple doubly so: it has a significant reputation to uphold. ☛

As an educator, Martin Levins likes empowering people to create using computing technologies.



By Christopher Breen.

Add a double-layer DVD burner to your eMac



Hot Links

www.patchburn.de

PatchBurn

eshop.macsales.com/shop/optical-drives/superdrives/

Other World Computing, an online retailer of Mac upgrades

www.mcetech.com/pbg4dvd8d1.html

MCE Technologies, another supplier of Mac upgrades

www.ht.com.au

A local retailer of upgrade parts

Optical enhancement

APPLE'S eMac provides a lot of bang for the buck, but you can add an even bigger bang for less than \$150: a modern optical drive capable of recording double layer DVDs. By adding one of these drives to your Mac, you'll be able to create DVDs that can hold as much as 8.5GB of data — almost twice what a single-layer DVD can (see the sidebar "Double your pleasure").

What You'll Need:

- #2 Phillips screwdriver
- 2.5mm hex screwdriver
- Needle-nose pliers
- Optical drive (we used a Pioneer DVR-108, available from numerous suppliers)

From the outside, the eMac appears to be impenetrable. Not so. All you need are the proper tools, a measure of patience, and our guidance. (You can perform this upgrade on many other Macs as well. See the sidebar "New options for older Macs.") Keep in mind that these instructions apply to the current eMac — known as the eMac (USB 2.0) — and the previous eMac (ATI Graphics) models. Disassembling the original eMac, which was sold between April 2002 and May 2003, requires a couple of extra steps — including removing the speakers and the fan assembly.

When you're shopping for an internal DVD burner, look for one made by Pioneer. Its drives offer the greatest compatibility with the Mac operating system, and recent versions don't require the kind of firmware updates that other drives demand. Pioneer's current SuperDrive is the DVR-109, which can burn both single- and double-layer DVDs.

Make the eMac comfy. Shut down the eMac and unplug anything connected to it (power, USB, Ethernet, and FireWire

cables, for example). To be ultrasafe, leave the eMac unplugged for 24 hours so any electricity held in the CRT has time to dissipate. Place the eMac monitor-side down on a towel or carpet to protect the screen from scratches. Turn it so the user-access door faces you.

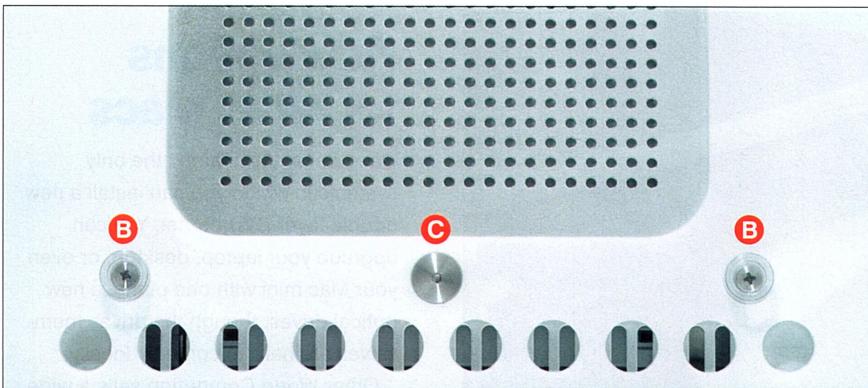
Remove the user-access door.

Using the Phillips screwdriver, unscrew the single screw **A** holding the user-access door in place, and put the door aside. If there's an AirPort card installed, detach its antenna cable, pull the card from its slot, and set it aside.



Warning! If you suspect that anything in these instructions is beyond your abilities, do not attempt to upgrade your eMac. Have a tech-savvy friend or a qualified computer technician do it for you. The computer's CRT display can store lethal amounts of electricity even when the eMac is unplugged. Although this project won't get you too close to the display components, you should avoid playing around unnecessarily inside your eMac. If you monkey with the wrong parts, bad things could happen — the least of which is that you'll destroy your computer.





Unscrew the case. Below the user-access door opening, you'll see two plastic feet held in place by Phillips screws **B**. These screws also help hold the case together. Remove the screws and put the feet aside.

Next, use the hex screwdriver to remove the hex screw **C** between the two feet, just below the door opening. Two similar hex screws appear on each of the remaining three sides of the eMac's case. Remove these screws as well.

Lift off the case. With the user-access door opening facing you, carefully lift the case about five centimetres straight up. Look in through the door and find the power-button cable attached to the left side of the case **D**. Take note of which way the power-button cable bends (this will help you reattach it when you're done). Now reach in through the user-access door opening and carefully

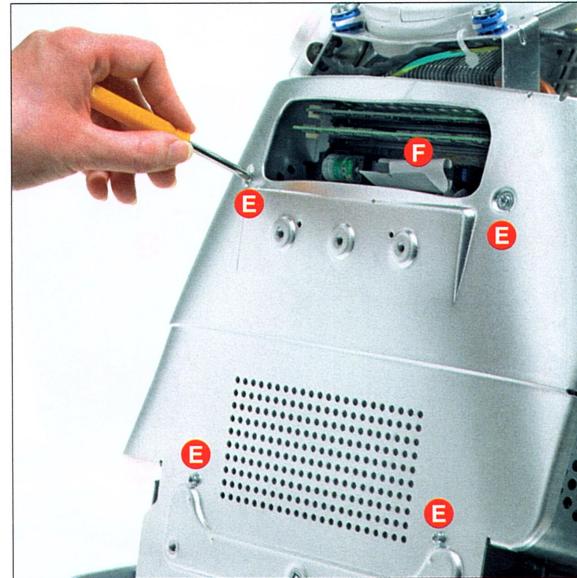
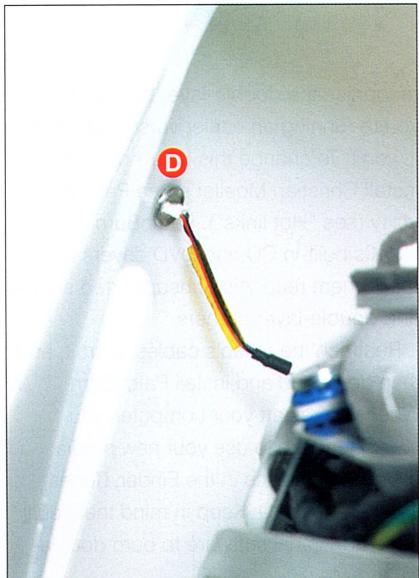
detach the power-button cable. Caution: Be sure to pull the connector straight out, not out at an angle. The plastic surrounding the connector is brittle. Once you've disconnected the power-button cable, lift the case straight up and put it aside.

Remove the Faraday plate.

On the bottom of the eMac, you'll see a large metal plate. This is the Faraday plate, which covers the media drive.

Remove the four Phillips screws **E** holding the Faraday plate in place. Before you remove the plate, note how the grey cable above the plate **F** is arranged (you'll need to duplicate this later when you replace the plate).

Gently pull the top of the plate toward you, creating a gap a couple of centimetres wide. Push the plate down to unhook the metal tabs at the bottom of the plate. Then pull the plate toward you and lift it out.



Double your pleasure

Double-layer DVDs (sometimes referred to as dual-layer or DVD9 discs) are nothing new. Hollywood has been using such discs for years to hold not only full-length block-busters, but also scads of bonus material. What is new is the introduction of inexpensive, Mac-compatible DVD drives capable of recording double-layer discs.

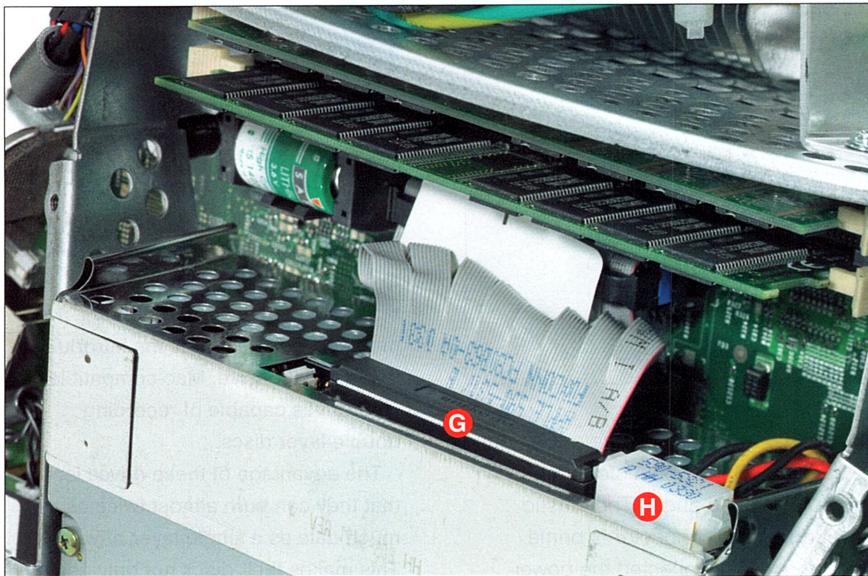
The advantage of these drives is that they can burn almost twice as much data as a single-layer drive. This makes their discs not only useful for data backups, but also a great way to store higher-quality video — with more room, you can forego compressing your video.

So how does it work? Double-layer DVDs have two recordable dye layers separated by a spacer. The drive burns the innermost layer — from the inside of the disc to the outer edge — using a low-energy beam. The burner then refocuses the beam and burns the outer layer from the outside edge in.

Double-layer DVDs are compatible with nearly all consumer DVD players, but they're not inexpensive. Single-layer DVDs in bulk cost less than \$2 per disc these days, while double-

layer DVDs still cost around \$12 per disc.

Another disadvantage of double-layer burning is that its support on the Mac is limited. iDVD 5.0.1 supports double-layer burning only with Pioneer 109 drives. DVD Studio Pro 3.0.2 (and later) is compatible with all double-layer systems. Your other option is to use third-party software such as Roxio's Toast 6 or later, which does support burning to double-layer media on the Mac.



Replace the optical drive.

Disconnect the long black data-cable connector **G** and multi-coloured power connector **H** from the back of the optical drive. If you have trouble removing the power connector by hand, use needle-nose pliers on either edge of the connector and pull it straight up.

The optical drive is held in place by four Phillips screws **I** — two on either side of the drive bracket. Remove these screws and set them aside. Pull the drive toward you and remove it.

Finally, remove the EMI shield **J** from the end of the old drive and place it on the end of the new drive.

Reassemble the eMac.

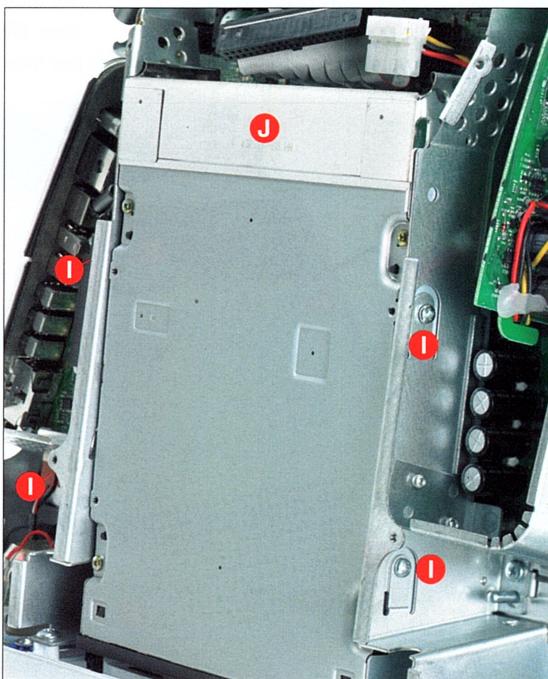
To reassemble the computer, follow the previous steps in reverse order. To replace the Faraday plate, insert the bottom first. Next, lift the plate until the tabs at the bottom of the plate fit into the cutouts on the eMac's chassis. Then push the top of the plate into position and screw in the four screws.

Replacing the power-button cable is perhaps the trickiest part of this project. You have to slip your right hand in through the user-access door opening between the chassis and case while holding the

case with your left hand. People with large hands will find this a difficult fit. Before you reattach the power-button connector, be sure it's oriented correctly. (If you push the connector in upside down, you could bend the three small pins in the receptacle — making it impossible to connect the two without first straightening these fragile pins.) Then push the connector straight into the receptacle.

Configure the new media drive.

If you're running OS X 10.4 with Apple's iLife '05 programs, the system should



New options for older Macs

Of course, eMacs aren't the only systems in which you can install a new double-layer DVD burner. You can upgrade your laptop, desktop, or even your Mac mini with one of these new optical drives, though the drives themselves are hard to come by locally.

Other World Computing sells a wide range of double-layer drives online, including those for the iMac G5 and the Mac mini (see "Hot links"). MCE Technologies (see "Hot links") also sells internal drives for a range of laptops. Upgrading an iBook, though, involves sending your laptop to MCE, which is impractical for most Australians.

If you're doing the job yourself, here are some resources that will help you make the switch:

First-Generation G4. For step-by-step instructions on installing a DVD burner in a first-generation G4, go to macworld.com/0567.

PowerBook G4. You can download in-depth assembly guides for PowerBook G4s — and many other laptop models — at PB FixIt (www.pbfixit.com). This very useful site offers a series of free downloadable PDFs and online tutorials for replacing just about any part in your laptop. • Kelly Lunsford

recognise the double-layer burner. If you're running an earlier version of OS X, it won't. To change this, you'll need to install Christian Moeller's free PatchBurn utility (see "Hot links"). PatchBurn alters OS X's built-in CD and DVD drivers to make them recognise unsupported single- and double-layer burners.

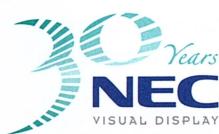
Reattach the eMac's cables, start it, and then download and install PatchBurn. When you restart your computer, you should be able to use your new media drive to burn discs in the Finder, iTunes, iPhoto, and iDVD. Keep in mind that you'll need additional software to burn double-layer discs. ☀



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 Font Finagle

Solve font problems

MOST mortals, with the exception of graphic designers, almost never think about fonts. Ignoring your fonts, however, can lead to trouble. Font mishaps can be the source of mysterious application and computer crashes, slowdowns, poorly substituted fonts in print, and other perplexing problems. Just one corrupt font can be very bad news. The New Font Order introduced in OS X made font handling — always tricky at best — even more complex. Here's how to diagnose and solve some of the most common problems.

The doubting deleter. I removed some fonts from my Font folder to shorten my Font menus. Now my Mac crashes on startup. What happened?

You may have removed fonts with names you didn't recognise or fonts you don't use from your /System/Library/Fonts folder. Unfortunately, Mac OS requires some of those fonts in order to function properly.

If you remove *LucidaGrande.ttf*, for example, your system won't boot. By the same token, some programs (Address Book, for one) need Helvetica to display text correctly. OS X must have the following fonts: the *AquaKana.otf* family.

Sayonara, seldom-used fonts. Tired of foreign-language fonts clogging your menus? It's easy to disable them with Panther's (or Tiger's) Font Book application.

Keyboard.ttf, *LastResort.ttf* (a special font used to show missing characters in other fonts), and *LucidaGrande.ttf* (the font most of the system uses for menus and dialog boxes).

If you work in the Classic environment at all, make sure you don't delete *Charcoal*, *Chicago*, *Geneva*, *Monaco*, or *New York* from Classic's Fonts folder (OS 9 System Folder/Fonts).

Basically, deleting fonts that come with OS X (especially anything in /System/Library/Fonts) is dangerous. The safer route is to deactivate the ones you don't use. See the next section for details.

Massive font menus. My Font menu is huge and unwieldy. Is there a safe way to remove fonts and confine my choices to the ones I use?

The easy, free way to depopulate your Font menu is to use Font Book (in your Applications folder). Font Book offers a friendly interface that lets you view fonts individually or in family groups — for example, *Arial italic*, *bold*, and *regular*. Most important, Font Book can deactivate fonts. In other words, instead of deleting a font from the operating system, Font Book simply removes it from your Font menus.

You could use Font Book to deactivate those foreign-language fonts you never use (see the screenshot "Sayonara, seldom-used fonts"), for instance. Here's how:

Step 1. Launch Font Book.

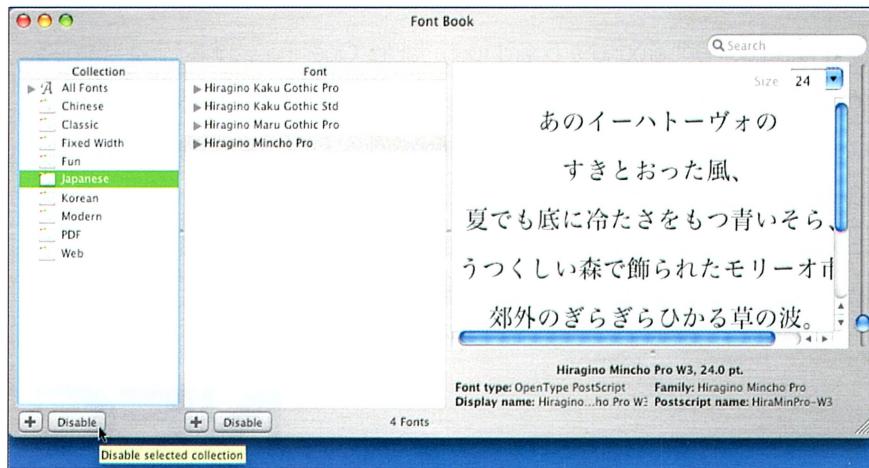
Step 2. You'll see a Collection column, a Font column, and a preview window. From here you can see each font individually or within its collection. For instance, you'll see Korean, which includes six fonts, and Japanese, which includes four.

Step 3. You can deactivate these fonts one by one, shift-click to select a contiguous group to deactivate, or option-click to select a group of individual fonts. After you make your selection, click on the Disable button (in Tiger, click on the check-box icon). In the dialog box that appears, click on Disable again. In Panther, you can also disable an entire collection by selecting Font Book: Preferences and then activating the Disabling A Collection Turns Off All Fonts In The Collection option. In Tiger, select the collection and choose Edit: Disable collection name.

The fonts won't disappear from most Font menus until you close and relaunch your programs. If you ever need to write a note in Japanese, return to Font Book and follow these steps again, but you'll instead click on the Enable button to reactivate the needed font.

Where'd everything go? When I open Font Book, I can't see some of the fonts I've installed. What's going on?

While Font Book gives you a lot of control over activating and deactivating fonts, it won't display fonts you've installed with other type managers.



If you work primarily in Apple'sTextEdit, Mail, Pages, or Keynote, then use OS X's Font panel to view and organise your fonts. This sophisticated font viewer appears only in Apple's OS X-native applications and a few other applications that support it. In addition to letting you view fonts, the Font panel lets you organise fonts into collections, as well as select and manage them so you can find and use them easily.

To access the Font panel in TextEdit, for example, select Format: Fonts: Show Font. The Font panel will appear.

Apple has created some default collections for you, such as Classic, Fixed Width, Fun, and Modern. You can add, delete, and replace collections at will. Here's how to create a new collection:

Step 1. In the Collections column, click on the plus-sign button (+). A new, unnamed collection will appear in the column. Name it anything you want.

Step 2. Select the All Fonts collection at the top of the column. In the middle column, you'll see all the enabled fonts in your system.

Step 3. Select the fonts you want in your new collection and then drag and drop them onto the collection you just made. It doesn't matter if they're activated. When you click on your new collection icon, you'll see the fonts you moved.

Porting PC fonts. I've just switched to the Mac from Windows. How do I rebuild my font collection?

The good news is that you don't have to. In OS X 10.2 and later, your Mac can display Windows fonts as easily as Mac fonts. In the past, the major incompatibility between Mac and Windows fonts was that Mac font files included both a data fork and a resource fork — Windows files have only a data fork. As of OS X, however, Apple created a new font format, dfont (or data-fork TrueType font), which stores all its resources in the data fork. So OS X can now display Windows TrueType and Unix fonts as well as all Mac and OpenType fonts. And you can install all the fonts from those megafont CDs with no worries.

Mysterious crashes. My system keeps freezing and hanging, my apps crash

for no reason, and everything is running slowly. I fixed my permissions, ran a diagnostic utility, and updated my virus definitions. But none of this has helped. What's wrong?

Corrupt fonts or font caches may be to blame (see the sidebar "Take out the cache" for information about cache problems). System crashes and other troubles with your hard drive or operating system can cause font corruption. Crashes are particularly damaging to fonts, and since your fonts are open during a crash, any document you're working on, and the fonts associated with it, can become corrupted. It's all too easy to

overlook font corruption as a potential problem, but your computer's performance will suffer until you figure it out and fix it.

While there are fewer instances of corrupt fonts in OS X, legacy fonts from earlier Mac operating systems, and fonts from non-standard vendors, can still cause problems. OS X checks automatically and deactivates fonts that look corrupt, but the only way to repair them is to buy and run a third-party font-repair utility. Many commercial packages are available, and most offer demo versions so you can try them out (see "Hot links" for a list of the major contenders). 

Take out the cache

Are you experiencing garbled text, fonts that refuse to delete, or application crashes? Your problem may not reside within the fonts themselves — it may be within their cache files. OS X uses these files to keep track of the fonts you've installed and the characters each one uses. If the cache files become corrupt, you've got trouble in font city.

Happily, the solution is simple: delete the cache files. When you do, OS X creates new, uncorrupted copies with default settings. You can either let a third-party utility do this for you or take the do-it-yourself approach.

A helping hand. If you prefer having a utility take out the trash for you, I recommend Font Finagler (\$US10; see "Hot links"). This utility creates a list of all the relevant cache files on your drive and then lets you delete them with the click of a button.

DIY details. To do it yourself, locate the cache files in the Finder and drag them to the Trash. It's that simple. In some cases, you'll need an administrator's password. Here are the items to mark for extinction (and where you'll find them):

com.apple.ATS.plist. This file is located in /your user folder/Library/Preferences. Among

other things, it contains information about which fonts you've disabled via Font Book. Deleting this file will likely reactivate disabled fonts.

com.apple.ATS. This folder is located in /Library/Caches. Delete it along with all its contents.

fontTablesAnnex. This file is located in /System/Library/Caches; if it's corrupted, it's the likeliest cause of garbled text. Delete it.

Office Font Cache. This file is located in /your user folder/Library/Preferences/Microsoft. Delete it if your font troubles are restricted to Microsoft Office applications.

All other files whose names include .ATS or font. These are located in the /System/Library/Caches folder. The com.apple.ATS.System.fcache and com.apple.ATSServer.FODB_System files are the most important ones to delete, but it can't hurt to get rid of all of them.

Whichever method you choose, restart your Mac after deleting the cache files. That's the best way to make sure OS X immediately and correctly creates new files. If a corrupt font is actually causing your problem, eliminating the cache files won't help — but cleaning out your font caches is often effective and certainly easy. So before hassling with your fonts, give it a try. • *Ted Landau*

Prevent DVD disasters



Hot Links

www.dvdemystified.com
Jim Taylor's superb DVD FAQ

iDVD survival guide

FOR many iDVD projects, one click of the Burn button is all it takes to commit your work to plastic. If you have a slow computer or a complex project, or just seem to have trouble burning reliably, you may be better off taking a more circuitous route. In iDVD 5, part of iLife '05, you can create a disc image of your DVD project – which you can then use to test for errors or to access advanced burning options.

If you've downloaded software from the internet, you're probably already familiar with the concept of disc images. A disc image is neither a disc nor an image. It's a file on your hard drive. The bits and bytes in this file are organised in the same way that they would be on a disc. If you double-click on a disc-image file, the Mac's Finder reads the disc image and creates an icon on your desktop, as if you'd inserted a disc.

When you create a disc image in iDVD 5, the program performs the same steps as when you click on the Burn button, with one exception: after iDVD finishes preparing your DVD's assets, it doesn't fire up your DVD burner. Instead, it simply saves the data in a file on your hard drive — as a disc image.

Creating a disc image can be a great way to increase your success rate when burning DVD projects. Separating the encoding and burning processes into separate phases gives you more flexibility — and, often, more reliability.

Creating a disc image. To turn your project into a disc image, choose Save As Disc Image from the File menu (⌘-shift-R). Give your disc image a name and click on Save. iDVD compresses your video, encodes your menus, and then saves the resulting data in the disc-image file. The file's name ends in .img.

Testing a disc image. If your DVD has a lot of menus, transitions, and content, you should take it for a test-drive

before you burn it to disc. To test your DVD, use OS X's DVD Player program.

Double-click on the disc image file to create an icon on your desktop. If you double-click on this icon to examine its contents, you'll see two folders: AUDIO_TS and VIDEO_TS. (If you added DVD-ROM content to the DVD, you'll see a third folder, too.) Those awkward names are required by the DVD standard, as are the even more awkward names of the files inside the VIDEO_TS folder. (The AUDIO_TS folder will always be empty, but don't try to create a DVD that lacks one; the DVD may not play in some players. In case this ever comes up in a trivia contest, TS stands for transport stream.)

Start DVD Player and choose Open VIDEO_TS Folder from the File menu.

Choose the right media

There are several types of writeable DVD media: DVD-R, DVD-RW, DVD+R, and DVD+RW. Previous versions of iDVD could handle only the DVD-R format, but iDVD 5 is much more versatile. It can burn any of the aforementioned formats, assuming your DVD burner supports them. Most of the SuperDrives in today's Macs can; older SuperDrives support only the DVD-R and DVD-RW formats.

There is an important difference between R and RW discs: an R disc (-R or +R) can record data only once; an

Navigate to your disc image, select its VIDEO_TS folder, and click on Choose. Now press the spacebar, and your faux DVD will begin playing back.

Burning a disc image. If you found a problem when testing your disc image — a typo, for example, or a missing piece of content — you haven't wasted a blank DVD. Simply trash the disc image, make your revisions in iDVD, and then create and test another disc image. If your disc image tested perfectly and you're ready to burn? Don't bother with iDVD's Burn button — use the disc image instead.

Using Disk Utility. First, start up OS X's Disk Utility program. (It's located in the Utilities folder within your Applications folder.) Next, click on the Burn button in the upper left corner of Disk Utility's window. In the resulting dialog box, locate and double-click on the disc-image file. Disk Utility then displays another dialog box. Before you click on its Burn button, select the little down-pointing arrow to

RW disc (-RW or +RW) can be erased and reused roughly 1,000 times. If you insert an RW disc that already contains data, iDVD even offers to erase it for you.

RW discs are great for testing, although you're more likely to encounter playback problems with them on some DVD players. Also, RW discs are more sensitive to damage and aging than write-once discs.

If you're interested in the technical details of these formats, read Jim Taylor's superb DVD FAQ (see "Hot links").



What's the hurry? To give your DVDs the widest compatibility and to get more-reliable burns, burn discs at your drive's lowest speed.

expand the dialog box and see additional burn options.

You can get more-reliable burns — and increase the chances that your DVD will play in other players — by setting the Speed option to your drive's slowest speed (see the screenshot "What's the hurry?").

Need it quick? If you deselect Verify Burn, your disc will be ready sooner. On the downside, you won't know if data was written inaccurately until you try to play the disc.

Other ways to burn. If you have Roxio's Toast 6 Titanium, you can drag your disc image's AUDIO_TS and VIDEO_TS folders into Toast and burn the disc there. If you've installed Toast's Toast It shortcut menu, the job is even easier: control-click on your disc-image icon and choose Toast It from the shortcut menu. (Use Toast's Preferences command to install the Toast It shortcut-menu plug-in.) You can also use Toast to fine-tune any DVD-ROM content you've added — for example, removing the raw versions of the photos you've included in a slide show.

Toast also gives you a choice of burning speed. For critical projects where you need the broadest compatibility, burn at 1x speed. ↗

Tip. When you're burning a DVD, avoid running complex programs that put a lot of demands on your system. For example, recording a track in GarageBand while burning a DVD isn't a good idea. Also consider turning off file sharing and quitting any disk-intensive programs.

Wow your friends: three iDVD tricks

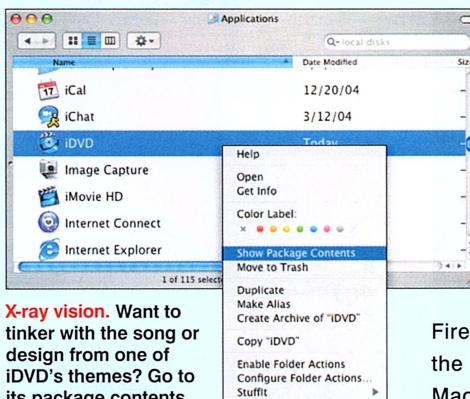
Add an iPhoto book to your slide show. Rather than just showing off your pictures one at a time in an iDVD slide show, why not lay them out in a book and display them as pages in iDVD? In iPhoto 5, you can save a photo book as a PDF. Click on the book and press c-P.

Choose Save As PDF from the PDF menu, and then open the PDF in OS X's Preview program. In the drawer (View: Drawer), select the page that you want to turn into a slide, and choose Edit: Copy. Go to the File menu and choose New From Clipboard — the Preview program will create a new document and paste the page you copied into it.

To add that page to your slide show, position the iDVD and Preview windows so you can see them both. Then drag the thumbnail from the new Preview document you created into the iDVD window. You don't have to save the Preview documents — you're simply using Preview as a tool for extracting individual pages from your book's PDF.

Hack iDVD. The iDVD application is a package, a kind of sophisticated folder that stores iDVD's program code and other resources. By exploring the contents of the iDVD package, you can take an inside look at iDVD's themes and even extract video and audio from them.

Control-click on the iDVD icon and choose Show Package Contents from



X-ray vision. Want to tinker with the song or design from one of iDVD's themes? Go to its package contents.

the pop-up shortcut menu. The Finder will display a directory window showing the contents of the iDVD package. Open the Contents folder and then the Resources folder.

In the Resources folder are iDVD's themes (each ends with .theme). Each theme is also a package; to explore it, control-click on its icon and choose Show Package Contents from the shortcut menu. Open the Contents folder and then the Resources folder, and you'll find background movies and audio loops. To extract an item — for example, to grab the background audio from the Drive In One theme — press the option key while dragging the item's icon to the desktop. This makes a copy of the item but doesn't change the original. (Don't throw away or alter any resources whose purpose you don't understand, or you may have to reinstall iDVD.)

Archive projects to burn elsewhere. If your PowerBook lacks a SuperDrive but your desktop Mac has one, you can still work on a DVD on a cross-country flight. iDVD 5 has an archiving feature that saves a project and all of its assets in one self-contained file that you can move to any Mac with iDVD 5.

Choose Archive Project from the File menu. If you created customised themes for the DVD — or if you want to be certain that your themes will be available in a future version of iDVD — select the Include Themes option.

If iDVD has already encoded the DVD's content, you can include those encoded files in the archive by selecting Include Encoded Files (but this will make your archive file quite a bit larger). Click on Save, and iDVD copies everything in your project into a file. You can transfer this file to another Mac, using a FireWire hard drive, a fast network, or the FireWire disk mode that laptop Macs provide.

By Derrick Story.

Make your subjects look good



Hot Links

www.canon.com.au/products/cameras_lenses_accessories/speedlites.html
Wireless flash modules from Canon

Great portraits made easy

Your sister covers her face if you point a camera at her, and your dad hides in the garage whenever you even mention a family portrait. Why are so many people shy in front of a camera? It's often because they've rarely seen good pictures of themselves. The fact is, many photographers haven't learned the fundamentals of taking flattering portraits — but you can master these tricks with just a little practice.

To take a good portrait, you need to understand lighting. Good lighting can accentuate a subject's best features while minimising flaws. Bad lighting will do just the opposite. How you harness the power of lighting will depend on the tools at your disposal and the amount of work you're willing to put into the setup. The rewards are well worth the extra effort.

Use front lighting. Many amateur photographers rely on a single light source for their portraits — typically the sun or a nearby lamp. The problem is that this lighting often hits the subject at an angle, creating harsh shadows that accentuate texture. This is great when shooting a desert landscape, but not so hot for pictures of your mom. A single light source from the

left, right, or above gives wrinkles more definition, eye sockets more depth, and the nose Pinocchio-like proportions. Is this how you want to photograph your loved ones?

If you have only one source of light, make sure it's coming from in front of your subject — ideally from your camera's flash. Front lighting flattens out noses, illuminates eye sockets, and diminishes wrinkles (see the illustration "Out of the shadows").

The best way to set up this type of portrait is to take your subjects outdoors and put them in an area of open shade with even lighting (for instance, under a tree). This has the added benefit of keeping the sun out of the subjects' eyes. Switch your camera to Program mode — usually represented by a P — and then force your flash to fire. Many cameras refer to this as a fill flash. Program

mode automatically balances the light from the flash with the background light, so the camera won't overdo it. (If your camera doesn't have this mode, try the Portrait mode instead.) Note the effective range of your flash. If it's good for three metres and you stand five metres away, you may be disappointed with the results.

Reflect your light. Side lighting is worrisome mainly when it's the only light source. When combined with a second, softer light source from the opposite side of the subject, side lighting actually becomes more flattering than front lighting.

The easiest — and least-expensive — way to accomplish this balancing act is to position a reflector opposite the main light. If you don't mind spending a few bucks, you can pick up a collapsible 22-inch Photoflex LiteDisc online for around \$50. If you're not in the spending mood, then white cardboard or foam core works just as well. For a more portable option, pick up a foldable sunshade from your local auto supply store.

You'll need a second pair of hands for this technique. If you're going solo, you may want to consider investing in a LiteDisc Holder or building your own rig.

Say you're shooting a portrait indoors with window lighting from the right (see the illustration "Bounce the light"). You would position the reflector on the left so the light is bouncing right into the subject's face.

The nice thing about reflectors is that they provide a soft fill light without your having to invest in a second flash and deal with lighting ratios, dead batteries, and other flash-related annoyances. With a reflector, you just get it positioned and shoot away. The results are usually quite flattering.

Out of the shadows. Outdoor lighting can be unflattering for the prettiest of subjects. By turning on your flash, you can put a sparkle in the eyes and downplay imperfections.





Bounce the light. Here, the main light is coming from the right. A reflector positioned on the left bounces light onto the subject's face, for a more pleasing portrait.

Use two light sources. For the greatest amount of control over your indoor portraits, use two different light sources. This will let you customise the lighting to best flatter your subject.

If your camera has a hot-shoe for an external flash, you can quickly set up professional portrait lighting just about anywhere, with the help of wireless flashes. Both Canon and Nikon offer great wireless flash systems.

Insert the transmitter into the camera's hot-shoe and position the two flashes anywhere you'd like. When you press the shutter button, the transmitter causes the flashes to fire until just the right amount of light has exposed the subject, and then it turns them off. Some wireless flash systems even come with little adapter feet so you can set them on furniture or attach them to a light stand. They're also small, so they'll fit in a large camera bag along with your other lenses and accessories, so they're very portable.

How you arrange the flashes will depend on your subject — many times, having the same amount of light on both sides can cause a person's face to look too full. A little graduation is good, and it can be slimming (see the illustration "Lighten up"). To create this effect, place your main flash at a slight angle about two metres from your subject.

Model management

So far I've focused on the technical aspects of portraiture. However, just as there's more to being a good nurse than taking blood pressure, your camera-side manner is a vital aspect of successful pictures.

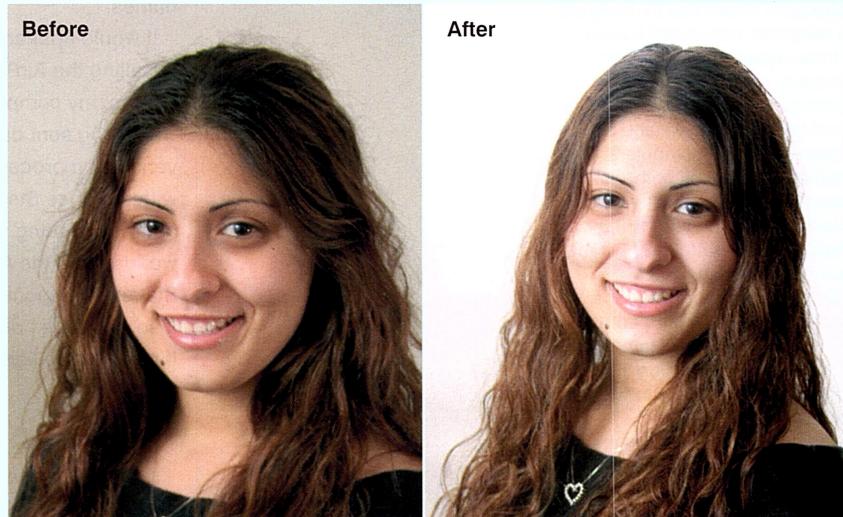
Find the best side. Shooting angles work in concert with lighting to create flattering portraits. By shooting from slightly above your model, for example, you can hide a double chin and emphasise eyes. Turning the model's shoulders slightly to one side creates a slimming effect.

Digital cameras make posing so much easier. Start with your best guess for positioning your model. Take a few shots, and then review them on the LCD. Often a subtle posing change can make all the difference.

Keep them relaxed. Start a conversation before you actually start shooting. I like to inquire about a person's interests while setting up the lighting and testing the camera. That always makes people more comfortable.

Give them a preview. For the first few frames, I always say, "I'm just doing some testing here, so you can relax." I take a few shots, review them on the LCD, make a few adjustments, and then shoot some more. I keep the conversation going while doing this. When I capture a shot that I think is flattering, I show it to the model right away. Seeing the image on the LCD gives the model confidence and helps the shooting session go much more smoothly.

Keep shooting. If you're not relying on your flash for lighting, try setting your camera in a continuous-shooting mode. A burst of five or six frames may help you capture that quintessential expression you wouldn't otherwise get. It's also great for kids and other fidgety models. However, this technique doesn't work so well for flash photography because the flash can't fire often enough to keep up with the shutter.



Lighten up. Lighting that is too even can sometimes make a face appear too broad. By producing graduated tones and adjusting the model's position, you can slim your subject's face.

Then use the second flash as a fill light by placing it farther away on the other side — perhaps three metres.

On the other hand, if the subject has a very narrow face, you might want to position the flashes at equal distances and angles to broaden his or her features. The great thing about digital cameras is that you can make your best guess for the lighting setup, take a few test shots, and then review

them on the LCD. After a few adjustments, you should be able to create the best possible lighting for your subject.

It's a wrap! With a little preparation and practice, you can capture portraits that will bring smiles to your subjects' faces. Who knows — this could lead to the perfect part-time job (one that'll pay for your next camera). ☺

By Sean McNamara.

AirPort versus POP3.

Help folder

We answer our readers' questions

Each month Channelworx (1300 883 882) gives a copy of Dantz Retrospect Desktop (valued at \$259) to the Australian Macworld reader who submits the most intriguing Help folder query.

Retrospect Desktop is the #1 home and small office backup software for Macintosh. Don't rely on manual drag-and-drop to protect your data — it misses important files, is performed sporadically at best, and cannot restore older or deleted files. Retrospect allows you to easily set up complete, scheduled backups of three networked Macintosh, Windows, or Red Hat Linux desktop and notebook computers. Client licenses are available to protect additional computers. The product CD contains both Retrospect 6.0 for backing up to Mac OS X (10.1.5 though 10.3 "Panther") and Retrospect 5.1 for backing up to Mac OS 9.

Send your query to matthew.powell@niche.com.au for consideration for Help folder. Include your full mailing address to be eligible to win Retrospect Desktop.

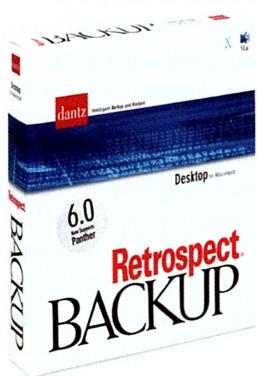
All queries and solutions are the sole property of Niche Media.

■ Sean McNamara is a Sydney-based consultant trading as MacAssist.



Hot Links

www.compnetworking.about.com
A primer on ports
www.homepage.mac.com
CalcXPlus
www.channelworx.com.au
Query of the month sponsor
www.microsoft.com/mac
Tip of the month sponsor



1

■ I am encountering problems with my ISP when trying to connect to their mail server. Having recently installed an AiPort Base Station (with modem) to connect to the internet, I am wondering if this is the culprit.

While I can connect to the ISP to navigate the web with no problems, sending/receiving e-mails is a different story — a message from the mail server informs that access is denied. I spoke to the ISP who informed me that their mail server does not accept IP addresses — only computer names.

It would appear that prior to installing the AiPort Base Station, my computer name was being sent during the verification process, while now with the Base Station an IP address is being sent. I was wondering if the AiPort Base Station is responsible for this? If so what can I do about this? If not, how do I address this problem?

Rob Brew
Orange, NSW

Without knowing any more specifics about your ISP's mail server, I'm loath to judge their comments as bunkum, Rob, but I'm certainly a little perplexed by what they're saying about their mail server, IP addresses and computer names.

To understand why, let's look at a typical "conversation" which goes on behind the scenes of a POP3 (Post Office Protocol v3) connection

between a mail client and a mail server. This conversation is not using SSL authentication, and IMAP connections have a different language, so these notes don't relate to IMAP or POP via SSL connections.

The mail client makes a connection to the mail server using a telnet connection on port 110: telnet mail.server. example.com 110 (See "Hot links" for a basic description of ports).

The POP server responds with a "ready" message, similar to this:

```
Trying 192.168.0.110...
Connected to
mail.server.example.com.
Escape character is
'^]'.
```

```
+OK POP3 server ready
(identifier
190/82297555)
```

The mail client then sends the mailbox login:

```
USER macassist
to which the server responds
+OK please provide a
password
```

and the mail client finishes the initial hookup by sending the password:

```
PASS somepassword
```

The server acknowledges a valid login as follows:

```
+OK mailbox ready
```

At this point, the mail client continues to use POP3 commands to find out which messages are new and to do maintenance tasks such as deleting messages as per the settings as set by the user. It disconnects from the mail server with a "QUIT" command.

As you can see, the only time an IP address is used is for the initial connection to the mail server — the mail server's domain name is translated to its IP address as is done for every other connection on the 'net, whether it be for web, mail, ftp or whatever. Whether you're

Personality conflict.

behind a router like a Base Station or not, the conversation is the same.

SMTP (the protocol used for sending mail) does log the sending computer's IP address, and that is changed by being behind a router. However, the SMTP server can tell what the connection's "real" IP address is (the router's), and will usually only restrict access to IP addresses that belong to the same ISP.

If you look at the headers on many e-mails, you'll see a line like this:

```
Received: from
[192.168.0.100]
(unverified
[147.10.204.57]) by
mxrelay.macassist.com.au
```

which shows the "behind the router" address (192.168.0.100) and the router's external address (147.10.204.57). I've never seen an SMTP server in a situation like what you describe deny a connection to a machine behind a router and I really can't see any point in wanting to configure an SMTP server to do so.

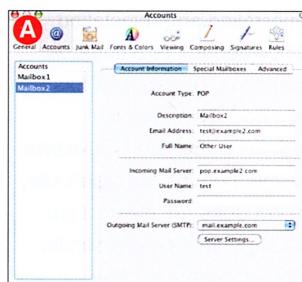
So, the first thing to try (if you're using POP) is to open up the Terminal program (in Utilities in Applications on your hard disk) and try and have a manual conversation with your mail server using the details above as a guide. If you successfully make a connection and log in to your mail server, there must be some sort of configuration problem with your mail client — double check the settings and try again.

If you aren't successful with those commands (or if you use IMAP or POP via SSL), connect your computer directly to the phone line the way you used to, and try it again, both in the Terminal and in your mail client. I suspect the problem is coincidental to the installation of the Base Station.

2

■ I'm moving from Eudora to Mail as a consequence of purchasing Daylite which was reviewed in AMW 04.2005. I use two different return e-mail addresses, for two firms, which are easy to set up under Eudora's "personalities". In Eudora, not only the signature info changes, but so does the return e-mail address, to whatever you specify. Mail uses Signature for return address etc., but doesn't seem to have the provision to change the rest of one's "personality" as does Eudora. Is there a Mail equivalent to this feature in Eudora? I've not found an equivalent in any source I've consulted so far.

Charles Nelson
South Melbourne, VIC



If you have a mailbox for each account, it's just a matter of adding the extra account.

You can also set up extra signatures **B**. Each account is available from an Account pop-up menu in the Compose dialog box, as are the signatures you've set up.

Tiger's version of Mail allows you to specify a default signature for each account, rather than one default for all accounts, which is then changed for extra accounts manually **C**. This makes the behaviour even more like Eudora's personalities feature.



The twilight volume.

3

■ Last year I used Cocktail to clean up my system and it did that and more, returning my eMac to its pristine off-the-shelf state ... well, almost. All the files were gone, the System Preferences back to default but with an annoying recognition of past use: a 13GB invisible volume taking up hard drive space and no clear way to sort it.

I frowned then grimaced and eventually got everything back up to its 10.2.8 self — with this frustrating, invisible, presumably empty volume hogging useful space! It seems that Cocktail did a sort of archive and install in that Safari and other Mac software were still intact while all my other accumulations distant (although fortunately backed up) memories.

I figure I'll have to return the machine to its virginal self yet the archive and install looks like it places a folder of the previous System on the hard drive. Will it place the System folder and its invisible friend into that folder, negating the

worth of the archive and install process?

Steve Hoy
via internet

Quite bizarre, Steve — selecting Archive & Install without the "Preserve Users and Network settings" option will behave as you describe, but I haven't heard of any utilities like Cocktail doing what you describe.

All of the data must be there, somewhere. You could try looking for folders called, say, Library, as there are several of those scattered around the hard disk — any not in your Home Folder, on the root level of the hard disk, or in the folder called System.

Slow-moving Entourage.

4

■ I have a PowerBook G4 running Mac OS X v10.3.4 which I purchased in November last year. It has a fairly standard set of applications, including the 2004 version of Office for Mac. I was very happy with the new machine, especially the functionality of Entourage, but that is where the problem occurs.

Since late November (after using the package for about a month) whenever I open Entourage it waits about 10 to 15 seconds and then freezes indefinitely with the coloured wheel spinning on screen. This simply goes on indefinitely, on occasions I have left it for in excess of an hour but it never corrects itself. All options I have explored to date have been without success, AppleCare's advice was confined to repairing file permissions, which had no effect, and I have completely

uninstalled and reinstalled Office about 4 or 5 times — each time the problem has returned. There is no indication that this is a known problem on the Microsoft site, so I'm quite frustrated. I am not experiencing any similar problem with any other application.

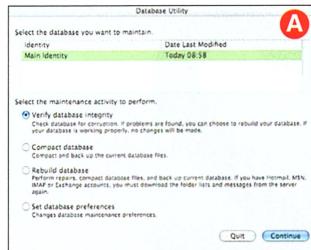
The last apparently relevant things I recall happening before the problem occurred was that software updater ran (but I can't be sure what updates were installed) and I had recently installed Virex from the .Mac site. I have since uninstalled and reinstalled Virex without it making any difference.

Paul da Silva
Glenhaven, NSW

There are several areas that usually result in the sort of problems you're experiencing (I don't think System updates and Virex are to blame), so let's look at them in turn.

First, you've eliminated application problems by reinstalling Office several times — the problem is more likely located in one of the files in your Home folder.

Microsoft, in its infinite wisdom,



has decided to store all messages in one monolithic database. If this file, or the file which stores the table of contents of this file, has a problem, you can experience problems like you describe. So we turn our attention to these files. You can verify and rebuild the database and its table of contents by holding down the Option key while starting Entourage **A**.

The other area you can get problems is in the Entourage Preferences — these are stored in the Microsoft folder in Preferences in Library in your Home folder. Move this file to the Desktop if you're still having problems, and start Entourage again — delete the file if the problem disappears, put it back if the problem remains. However, if rebuilding the database didn't fix the problem, the preferences will almost certainly need resetting, so I don't think the problem will remain at this point.

Calculating by degrees

5

■ The question and answer (Help Folder 05.2005) regarding the Calculator application included with Mac OS X 10.3 has prompted me to ask a further Calculator question.

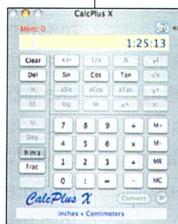
I regularly use a very old scientific calculator to calculate various dimensions relating to odd-shaped blocks of land and then set out measurements for buildings on the land. The old calculator has a button that allows me to enter degrees, minutes and seconds to arrive at a decimal figure and together with the "INV" button to convert from a

decimal figure back to degrees, minutes and seconds.

I would like to use the OS X Calculator application but cannot find a way to carry out the required conversion, initially to a decimal figure.

John Blake
Woodlands, WA

The built-in Calculator doesn't have this functionality, John, but there are third party alternatives,



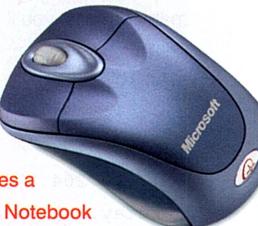
Our first Tiger tip

Microsoft Reader tip

A fast way to close the Spotlight search box after you have your results is to press the Escape key, but you have to press it twice (once to clear the results, and once to remove the search box).

Try **⌘-Escape** instead — it totally closes the Spotlight results list and the search field.

Chris Gerke
via internet



Each month, Microsoft gives a free Wireless Notebook Optical Mouse valued at \$70 to the Australian Macworld reader who submits the best tip. Sized for mobility and designed to be noticed, Microsoft Notebook Optical Mouse offers great comfort for either hand and is always good to go. E-mail your tip, together with your name, address and phone number, to matthew.powell@niche.com.au. All reader tips published become the sole property of Niche Media.

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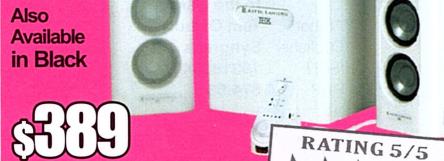
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Revolution In The Valley — The Insanely Great Story Of How The Mac Was Made comes from the pen of Andy Hertzfeld, who joined the Macintosh team in February 1981 and played a major role in the creation of the Macintosh system software, particularly the interface, the Toolbox and many of the first desk accessories. One of the chosen few to work with Steve Jobs, he can certainly be regarded as the ultimate insider. At the beginning of the story Hertzfeld is working on the Apple II when he hears about the Macintosh project. He somehow gets himself on to the Macintosh research team and the rest is folklore.

In his introduction to the book Steve Wozniak claims that it takes him back to "those rare days when the rules of innovation were guided by internal rewards and not by money". Those days were momentous because, as he reminds us, "every computer today is basically a Macintosh".

The story is structured in rough chronological order, peppered with anecdotes from many of the major players, and traces the birth of the Mac from conception in the summer of '79 to delivery in January '84. It closes in May '85 when Jobs was forced off the Macintosh team.

This is an exciting and immediate book, spiced with period photos (many published for the first time), original sketches, Mac prototype screen shots and revealing notepad scribblings, fascinating in the way they capture the intricate detail. The love-hate relationship between Steve Jobs and his disciples — admiration mixed with exasperation — is etched in detail as are the pen portraits of the Macintosh pantheon. Sit beside Bill Atkinson, Chris Espinosa, Jef Raskin and the rest of the team on their caffeine-fuelled quest to achieve the impossible.

It's all there, every last detail. If you want to get inside the revolution that became the Macintosh, this eyewitness account takes you ringside.

Apple I Replica Creation — Back to the Garage

by Tom Owad, Macintosh consultant and avowed Apple I freak, goes even further back in time. Once again Steve Wozniak writes the foreword, in which he traces his own humble entry into the world of computers, reminding us that although the Apple II was the first mass personal computer it was the Apple I that "told the world that small computers should never again come with geeky front panels, but rather with human keyboards, ready to type on".

In this book you're going to relive the Apple I's creation by building a working replica and programming it in assembly language and BASIC.



The book comes with a CD containing the software and documents necessary to create the circuit board and the software to program it.

Owad begins with a brief history of the Apple I embellished with a few interviews with Apple I pioneers. Then he gets you down to work, gathering the tools and materials you will need before introducing you to digital logic, the basis of microcomputer design. If you've been paying attention so far then you're ready to put your replica together, either from a kit or from individual parts. Then program your own new

Apple I, firstly in BASIC and then in assembly language. The job concludes with a detailed explanation of the digital workings of the computer you've just created. Appendixes contain mostly technical information, ASCII and operation codes, categorised instructions, electrical engineering basics and a detailed list of resources.

As a bonus, if you register your copy of the book on the publisher's web site, (see "Hot links") you get free e-booklets on associated topics, an FAQ page and links to a whole lot of related web pages.

If you're the tinkering type who wants to really get acquainted with your Mac's grandparents then this book will show you how to do it.

The iBook Fan Book — Smart and Beautiful to Boot by Derrick Story brings us back to the present. This cute little 145mm by 145mm production with a cover in iBook white is unashamedly for newbies or switchers. In scarcely 100 pages you'll get to know and love your iBook and maybe even bond with it.

The book is organised into six sections: Connecting with your iBook; Care and feeding (I warned you about cute!); Getting started; Organise your life; Your digital lifestyle; iBook on the go.

Once you've learned how to set your new friend up and how to look after it you run into a little section called Rest Stop (it isn't!) which is actually a crash course in OS X system preferences and internet applications. The Organise part centres on Address Book and iCal while the Digital Lifestyle section teaches you all about iPhoto, iTunes and iMovie. The last section is all about keeping your iBook cool, connecting a USB mouse, working with wireless and choosing from the many iBook accessories.

If your iBook is your first Mac and you bought it because it's cute, or because you're an iBook tragic, then *The iBook Fan Book* is definitely for you. ☺

Keith has been a Mac addict since 1984 and still can't fathom why there is anyone who isn't.

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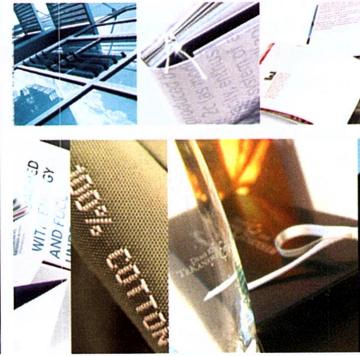
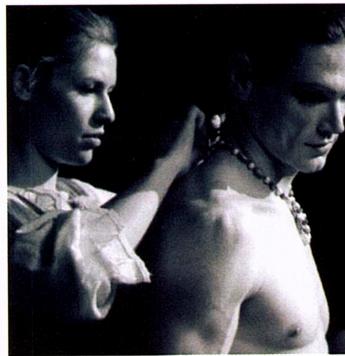
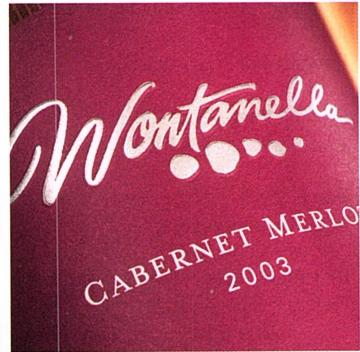
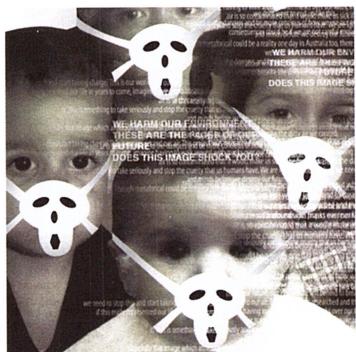
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AMW lab: Mass storage devices

*Now you can have
a terabyte on your desktop*

INFORMATION appears to obey the same laws of physics that apply to gases: it will expand to fill all available space. Hence the need for ever more storage on today's Macintoshes and the networks to which they are connected. With the advent of digital photos and digital video, even ordinary folk are suddenly running out of room on their hard drives.

Professional Mac users chew through storage even faster than home users and are often forced to employ data compression tricks — which can slow down the access speed — or resort to offline storage such as tapes or DVDs. However, nothing beats the convenience of having everything online and instantly clickable, and for people who make a living out of their data that convenience translates to necessity.

With the latest advances in hard disk technology, the humble IDE drive is now available with 500GB capacity in a single disk. Suddenly, you only need two of these monsters to hit 1TB of storage and it would theoretically fit right inside your Mac, as long as the drives don't run too hot or eat too much power. However, that much storage begs for some sort of protection against disaster as you can't easily back-up that sort of capacity onto tape let alone DVDs.

The birth of RAID. Back in the late 1980s researchers at the University of California theorised that combining several small disks into an array would improve the performance of the available hard drives and cost much less than buying the biggest drive on the market. They coined the name Redundant Array of Inexpensive Disks to describe their proposal, which quickly became known by the acronym RAID. By the mid-1990s lots of vendors were using the technology and IBM had taken things to a new level with RAID 5, which allowed for three or more disks operating in an array to survive if one of the members died.

What started as a search for better performance quickly changed to a demand for reliability and it was decided that the I in RAID should stand for "independent" since these new RAID offerings were no longer inexpensive. Several companies, such as EMC, created a new market selling these storage stacks as replacements for the expensive large stand-alone disks attached to mainframes and mid-range mini-computers.

All done with mirrors. On your desktop Mac you can set-up two disks into what is known as RAID 0, where one drive is a simple mirror-image of the other drive. If one drive dies you can keep working until a replacement is installed, but this version of RAID sacrifices half your storage space for the sake of reliability. You could choose to implement RAID 1 on your two disks, which makes both drives appear as one huge drive with faster access, but then you would have no protection against disasters.

Ratings key

Outstanding	★★★★★
Very good	★★★★
Good	★★★
Flawed	★★
Unacceptable	★
Dangerous	●



We evaluate, rigorously test and give detailed assessments of new-release software and hardware.

The most popular version is RAID 5, which requires a minimum of three drives, and usually a dedicated hardware RAID controller. This has the advantage that the capacity of only one drive in the array is sacrificed to the reliability gods. If you have five disks then you get 80 percent of the combined capacity available for storage of your data.

RAID towers can also house a "hot spare," which is an extra disk that is just parked alongside the other drives waiting for one of them to fail before it spins up and takes over. This belts-and-braces approach to redundancy is de rigueur in large servers such as Apple's Xserve with attached Xserve RAID storage.

Moving storage onto the network. Although you can bolt RAID 5 into or alongside your Macintosh, that's only a good idea for single-user set ups. If you want to share your vast new storage with other users on the network your Mac will have to

	Pegasus 410GT	Iomega NAS 200D	SOHORAI SR6500	LaCie Biggest F800
■ Type	Mass-storage device			
■ Rating	3.5	3.5	3.5	3.5
■ Pros	Easy set-up, support for mixed networks	Shares printers as well as storage, price	Up to 2TB storage, flexibility of disk sizes	Up to 2TB storage, price
■ Cons	No apparent vices	Windows-centric configuration	No apparent vices	Four bays instead of five
■ Ports	Ethernet	Ethernet, USB, Serial, Parallel	FireWire 800, USB 2.0	FireWire 800, USB
■ RRP	\$6000 to \$9000 depending on disk size	\$2200 to \$3200 depending on disk size	\$2600 to \$6000 depending on disk size	\$2300 to \$3600 depending on disk size
■ Distributor	MacSense 02 9798 3288	Iomega Australia 03 8223 9140	Silicon Memory 02 9417 7822	LaCie Australia 02 9669 6900
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■ Hot links	www.macsense.com.au	www.iomega-asia.com/ap/	www.siliconmemory.com.au	www.lacie.com/au



Pegasus 410GT



Iomega NAS 200D



SOHORAI SR6500



LaCie Biggest F800

work overtime to feed data to everyone else while you are trying to get some work done. Moving the RAID storage to a dedicated server improves the situation for everyone on the network.

The natural progression from a server with lots of storage saw the evolution of network-attached storage, known by its acronym NAS. A NAS device is basically a file server that has been optimised to do nothing else except supply data from its hard drives as fast as it can. Typically the NAS runs a version of Linux, although Microsoft sells a version of Windows Server 2003 that has been stripped of some superfluous code for use in NAS devices.

The NAS attaches to your network and allows any user to get at the data, with the added advantage that it is operating system agnostic. That is, you can share the data on a NAS with Windows or Linux users as well as your Macs. Some NAS offerings do double duty as print servers and some include backup devices that can operate without intervention from the Macs on the network.

The downside for NAS is that you can only access the device as fast as your network allows, and most networks don't yet operate at the fastest speeds available. For stupendously fast access to disk storage vendors use fibre-optic cables between the disks and their hosts. These fibre-channel disks are priced accordingly and, once again, you'd like to share that cost around.

Welcome to the storage area network. A SAN is designed for access only by file servers on a separate very high-speed switched network operating over gigabit Ethernet or faster. All the servers in your network share the data on the SAN and then feed the requests to the clients using the local area network, which might be operating at a lower speed. These file servers have dual network interfaces, one for the SAN and one to talk to the LAN.

If you have to ask what a SAN costs then you don't need one. For the rest of us, attaching a RAID box to a single Macintosh, which can then share the data with other users, or plugging a

NAS box into the network, is the most affordable way to get up to a terabyte of storage with the security of redundant disks to guard against disasters.

On trial. AMW lab evaluated RAID devices from LaCie and Silicon Memory, and NAS devices from Iomega and MacSense. All four of these storage boxes can handle a terabyte of data, although the units we tested weren't all configured with quite that much storage. Simply swapping the drives for larger capacity models will take them into terabyte terrain.

RAID. Silicon Memory submitted its SOHORAI SR6500 for review, which is a sleek aluminium box with five hard drive bays. The review unit had 250GB drives in each bay, pre-configured to operate in RAID 5 mode. Plugging into the FireWire 800 port instantly mounted a 935GB volume on the desktop. Not quite a terabyte, but certainly more than enough room for everything we could find to park on it.

The box also has USB 2.0 ports in case you don't have FireWire 800, and although 2.0 is compatible with USB 1.0 your transfer speed would be much slower. The unit can also be configured at lower RAID levels if you prefer, but we found it to be just fine as shipped. The drives can be removed by unlocking the bays with the supplied key and then pulling on a lever, and you can remove any one drive while the unit is operating if you need to replace a failed disk.

LaCie submitted its modestly-named Biggest F800, which might prove to be a naming problem when it releases a bigger Biggest drive in the future. This four-drive box shipped with 400GB drives installed, configured as RAID 5 with hot-swap capability. As the name suggests, the Biggest F800 has Firewire 800, but also includes USB 2.0 for the 800-challenged or for those who want to plug the beast into a Windows PC.

Plug it in, turn it on and the volume appears on the desktop, as you've come to expect with Macintosh add-on drives, showing a whopping 1160GB of available space. We encountered no problems dragging as much data as we could find onto the Biggest F800, the speed being only slightly slower than the same task performed on the internal drives in the Macintosh.

When we pulled out one of the drives on both these RAID boxes they just kept going as if nothing had happened. Re-inserting the drive got the lights flashing madly as the data checksums were rebuilt, but if doing that slowed access to the rest of the data we couldn't measure the difference. You can definitely get a terabyte on your desktop if you need it, as either of these units proved. You can also get more than a terabyte if you order 500GB disks, and pay for them.

NAS. MacSense submitted its Pegasus 410GT device, which is a four-bay mini-tower, with 250GB drives installed in RAID 5 configuration, giving 750GB of storage. On the back panel there is only a power socket and an Ethernet socket so getting it set-up wasn't a challenge. The unit includes a small two-line LCD display on the front, which can be used for basic configuration such as giving the thing an IP address if you don't have a DHCP server on the network.

Here at the lab our wireless router does DHCP duty, so the Pegasus 410GT was immediately available on the network. Finding out which address it had been given was easy, because the front panel display tells you. We entered the IP address into Safari and up came the configuration menu. The comprehensive menus are easy to follow and we quickly added a few users and created some folders. The Pegasus has Linux under the bonnet, but with the web interface you'll never need to see a Unix-style command line.

Another 750GB of storage soon appeared on the desktop, this time by using the Connect to Server command in the Finder (⌘-K) and entering the IP address. However, the Pegasus 410GT supports Linux, HTTP and Windows users so you can also access it from the Macintosh using Mac OS X's native ability to speak to Windows shares, or just browse to it with Safari. This unit also didn't mind having a drive ripped out while it was operating, and unlike some RAID devices, it didn't seem to mind which bay the drives were returned to.

As with the standalone RAID boxes, there was an awful lot of disk thrashing going on during the rebuild but once again the performance hit seemed negligible. Access speed was about the same as accessing a shared volume on another Macintosh, but of course there was no impact on any other user, and no need to remember to power up the Mac with the shared drives.

Iomega submitted its NAS 200D device with a pair of 160GB drives installed in two of the available three bays. This unit is also available with three 250GB drives for more storage, or the third bay can house a tape drive or REV drive for backups. Inside this box is an Intel PC running Microsoft Windows Storage Server 2003 – that causes some irritations for Macintosh-only users.

Although the NAS 200D automatically joined the network, there was no way to find out what address it had acquired from a Macintosh without using a network utility. Iomega supplies software for Windows PCs that will locate the NAS 200D for you, but with only a Macintosh you have to hunt it down. Once located, you enter its IP into Microsoft's Internet Explorer to access the configuration menu. You can't use Safari.

When you get to the menus you also need to edit the name that pops up on the browser address bar to continue the configuration, as the device uses an ActiveX control that didn't work on the Mac. After replacing the name with its IP address the menus appeared, but every refresh brought up an annoying message about out-of-date security certificates. We checked that we had the latest browser and fiddled with security settings, but the messages kept appearing.

That doesn't stop you from configuring the NAS 200D, but it sure is annoying. Accessing the unit from a Windows XP machine was the only way to get rid of the messages. If you want total control beyond what is available via the web interface you need to run Windows Remote Desktop Connection from a Windows PC. Another annoyance was that the two default shares pre-configured on the NAS 200D are set to read-only until you create some users. No doubt this is in the interests of better security, but there was no mention of it in the very brief paper manual.

The performance of the NAS 200D seemed to be on par with the other units on test once we'd got over the fiddly menu system. This unit would appeal more to mixed networks of Windows and Macintosh users, where there wouldn't be a problem getting easy access to the underlying server. Since it is a full Windows server it can also share printers via the included USB, serial and parallel ports – which might broaden its appeal.

Australian Macworld's buying advice. For a NAS server we recommend the Pegasus 410GT over the Iomega. The Pegasus was hardly any more difficult to set up than a directly-attached RAID storage box. The Iomega is just too Windows-oriented for a Macintosh only network.

The SOHORAI SR650 gets our vote for stand-alone RAID storage due to its five bays and availability with almost any size disks you specify. ☺

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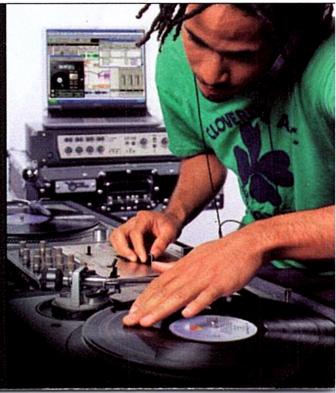


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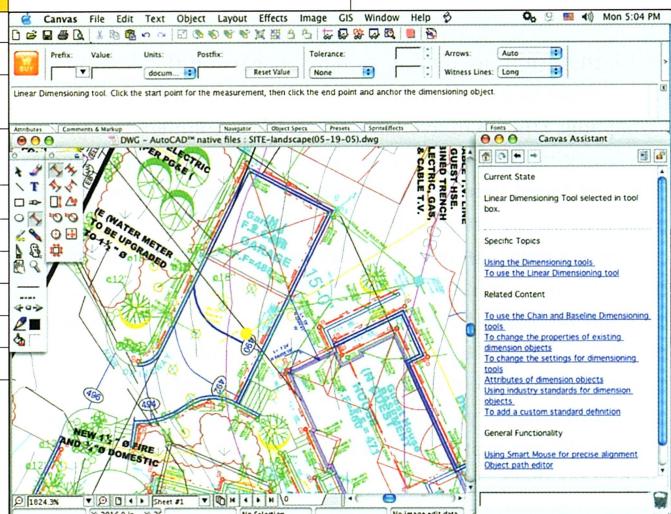
■ Type	Image-editing application
■ Rating	1/2
■ Pros	New import and export formats; detailed help features; extremely versatile; helpful interface
■ Cons	Missing DWG export; markups do not translate to Acrobat 7 PDF files
■ OS X	10.3, 10.4
■ RRP	Not finalised at press time
■ Publisher	ACD Systems
■ Distributor	Pica 03 9388 9588
■ Reviewer	Greg Miller
■ Hot links	www.acdamerica.com

Canvas X

New features benefit collaborative workgroups

AS an image-editing and illustration program particularly well-suited to technical drawings, ACD Systems' Canvas X is truly desert island software – if you can have only one application, Canvas X can handle every graphical task.

The program allows you to work with both bitmap and vector graphics with the precision of a CAD program and the capabilities of a page-layout application. It also can be used as a presentation tool and web-page creation software. While its features



More help, more smarts. Canvas X's Smart Toolbox (left) and Canvas Assistant (right) are valuable interface improvements that make the program easier to use.

are not as extensive as dedicated graphic or web design applications, Canvas X nonetheless excels at all these tasks.

The improvements in Canvas X make it far more useful for engineering and architectural projects than the previous version. ACD Systems has expanded the program's import and export capabilities to include 80 file formats, including DXF and DWG import and DXF export, making Canvas compatible with the most widely used CAD formats, including AutoCAD. I'd like to see the ability to export as DWG as well as DXF.

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Canvas X now allows you to add annotations, markup notes, and comments to collaborate with other people in your workgroup. Annotation tools include highlight, redlining, and callout tools. However, recipients of your files will need Canvas X to view those comments. It would be nice if the annotations could translate into Acrobat 7 annotations when saving as a PDF file.

Canvas X has a more extensive startup dialog, which gives you easy access to the online technical support and online discussion forums. ACD's technical support resources include a getting started area, tutorials, online knowledge base, and a wonderful "7-Minute Solutions" section where dozens of typical tasks are organized and outlined in quick how-to guides.

The new Canvas Assistant is a more extensive addition to the existing Dynamic Help, and consists of a floating hypertext window with information and links about the tool or process you are working with. It can be turned off if you don't want or need it.

Flexible for both bitmaps and vectors. For technical illustration, some of Canvas X's strengths over other illustration applications come from the CAD (computer-aided design) world, and include extensive layer capabilities, symbol libraries, dimensioning, and a 64-bit coordinate system. These features give Canvas the precision that technical illustrators need to create scaled and measured drawings.

One of Canvas' best new features is its Sprite Effects, which allow you to apply one or more filters (such as zoom, sharpen, colour balance, or transparency) to one portion of an illustration without changing the underlying graphic. These effects work on bitmap images and vector-based drawings, as well as combinations of the two. Sets of Sprite Effects can be turned on or off, reused, and applied to multiple images.

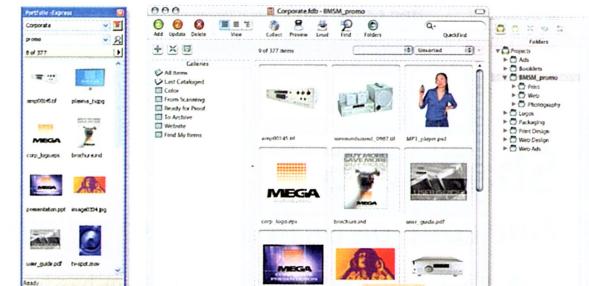
Versatile interface. Canvas X's well-designed interface does a great job of presenting context-sensitive tools and options to prevent your screen from becoming too cluttered. For example, the Properties Bar, located across the top of the workspace underneath the toolbar, automatically displays the controls and properties for the currently selected object. The Smart Toolbox, Canvas' tool palette, ensures that only related tools and tool options for the currently active tool are displayed. Even the program's help is context sensitive.

Canvas X also has a GIS version for mapping and a Scientific version for graphic analysis of imagery and data from scientific sources.

Australian Macworld's buying advice. There are enough new features here for existing Canvas users to easily justify an upgrade. New users who can take advantage of Canvas X's versatility will save hundreds of dollars over buying a suite of products to cover all of Canvas' capabilities. Existing users of dedicated applications, such as Adobe Photoshop or Adobe Illustrator may find Canvas X somewhat lacking in their specific area of use, unless they need the added accuracy and features of Canvas' technical illustration capabilities. 

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■ Type	Compositing software
■ Rating	3.5
■ Pros	Node-based compositing paradigm makes it easy to edit projects; float-based colour space for high-dynamic-range media; extraordinary scripting capabilities; extremely fine level of compositing control
■ Cons	Non-standard interface; steep learning curve; underpowered RAM caching; no Levels controls; no 3D compositing tools
■ RRP	\$4499
■ Publisher	Apple Computer
■ Distributor	Apple Australia 133 622
■ Reviewer	Ben Long
■ Hot links	www.apple.com.au/shake

Shake 3.5

Fine control, difficult learning curve

APPLE'S Shake compositing program has been used to produce special effects for the last seven winners of the Academy Award for Best Visual Effects. At the price, the package obviously isn't for everyone, but if your work depends on a compositing program such as Adobe After Effects or Discreet's Combustion, then you'll want to take a look at the latest version of Shake.

With new warping and morphing tools, improved network rendering, and numerous workflow enhancements, Shake 3.5 is

a valuable upgrade for current Shake users. Because its node-based compositing system is so different from the timeline-based system used by most other compositing apps, new users will need to think very carefully before switching.

All compositing, all the time. It's important to understand that Shake is a dedicated compositing program, not a motion-graphics program like Apple's Motion or a combination compositing-and-motion graphics program like Adobe After Effects. If you need to create the type of animation required for professional motion graphics, using Shake is going to be very tedious. Similarly, Shake doesn't offer 3D compositing or animation tools. (Apple says that Shake 4, which is scheduled to ship shortly, will include 3D compositing features.)

Shake provides a much finer degree of control than its competitors but it also requires you do more work to create even a simple composite. Shake doesn't do anything automatically, which makes the program a little more difficult to use, but also makes it a lot more powerful than the competition. The good news is that, while Shake will force you to learn some compositing theory that you may not have needed to understand to use After Effects, this theory will make you a better at compositing in the long run.

Shake's unique nodal interface makes it a snap to find and alter any parameter of even the most complex composites immediately.

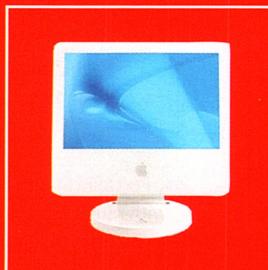
Nodes and noodles. In a typical compositing program, you import media elements and then stack them up as layers in a time-

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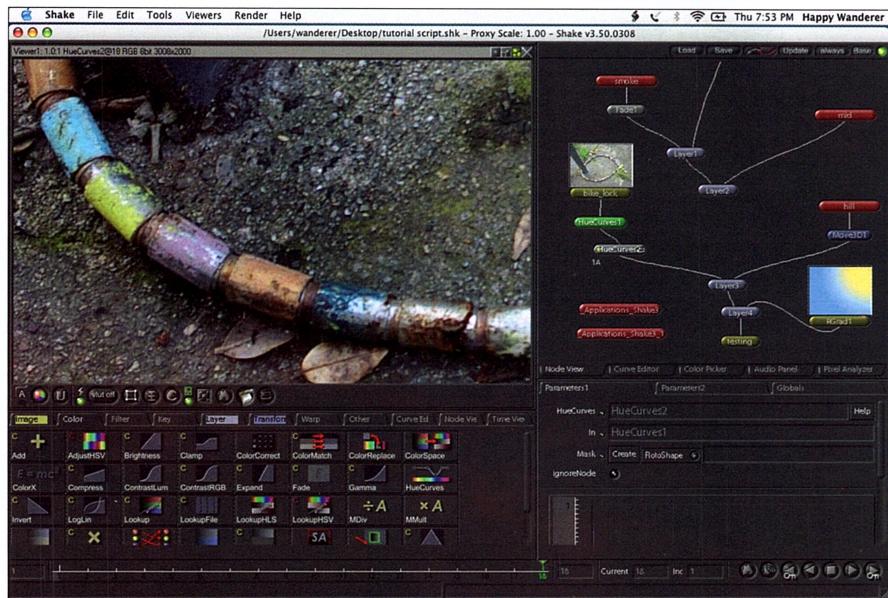
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line. Though this approach is very intuitive, it frequently requires complex “pre-comping” steps to control the order of compositing. In addition, tweaking the parameters of a single operation can require digging down through a complex maze of interface elements.

In Shake, every piece of media and every operation appears as a separate “node” in a node tree. These nodes are connected together using noodles – curvy lines that show how data flows into and out of different operations to create a final composite. Shake’s tool collection includes a thorough set of nodes for everything from creating colour slates, gradient fills and rotoscoping shapes, to performing colour keys, warps, blurs, and much more.

Unlike After Effects, which automatically composites layers as they’re stacked on top of each other, everything in Shake has to be explicitly defined. If you want to composite two layers, you must add an Over node to your project and link your source images into that node. The results can then be linked to other effects or composites.

Because every operation is a separate node, you can quickly and easily get to any filter or operation to tweak its parameters, delete it or replace it, and you never have to perform any pre-comping or nested compositing.

As raw power goes, Shake is not any faster at rendering or outputting than After Effects, but its ability to work in a float-based colour space makes it ideal for high-dynamic-range feature film and high-definition video work. Version 3.5 sports better RAM caching for improved on-screen playback, but it is still very weak when compared to After Effects or Combustion.

What's new. In addition to improved RAM caching, as well as some improvements to the program's network rendering, Shake 3.5's most important improvements are the addition of new spline-based warping and morphing tools.

You may think you don't need such effects for your projects, but warping and morphing are actually workhorse tools that can help you better composite elements that might be slightly mismatched in size, position or perspective.

Unfortunately, many of Shake's other everyday tools are still non-standard and obtuse. Rather than a simple Levels slider like the ones you'll find in After Effects or Photoshop, Shake provides separate Expand, Compress, and Brightness commands. These are perfectly effective, but Levels is a simple, standardised interface that should be present in Shake.

Australian Macworld's buying advice. There's no doubt that if you have a complex compositing task, Shake can do it, and probably with greater ease than After Effects. Be prepared for those first projects to take a long time as you get up to speed with the program. Shake is well worth its price – and for projects that utilise high-dynamic-range elements, it's a must-have – but before you buy, be sure you can budget in some training, in the form of either books or classes. ☺



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	17-inch 1.8GHz iMac G	17-inch 2.0GHz iMac G5	20-inch 2.0GHz iMac G5
■ Type	All-in-one desktop computer		
■ Rating	4	4	4 1/2
■ Pros	Striking design; adequate memory; AirPort Extreme and Bluetooth 2.0+EDR now standard;	Striking design; adequate memory; AirPort Extreme and Bluetooth 2.0+EDR now standard; double-layer SuperDrive	Striking design; reduced price; huge, wide-format screen; big hard drive; adequate memory; AirPort Extreme and Bluetooth 2.0+EDR now standard; double-layer SuperDrive
■ Cons	No height adjustment; no front ports; no DVD burner	No height adjustment; no front ports	No height adjustment; no front ports
■ RRP	\$1999	\$2299	\$2795
■ Manufacturer	Apple Computer		
■ Distributor	Apple Australia 133 622		
■ Reviewer	Henry Norr		
■ Hot links	www.apple.com.au/imac		

2.0GHz and 1.8GHz iMac G5s

Welcome improvements across consumer line

OME people call product-line updates that feature processor-speed increases "speed bumps." Nowadays, though, it might make more sense to use the term "feature bumps."

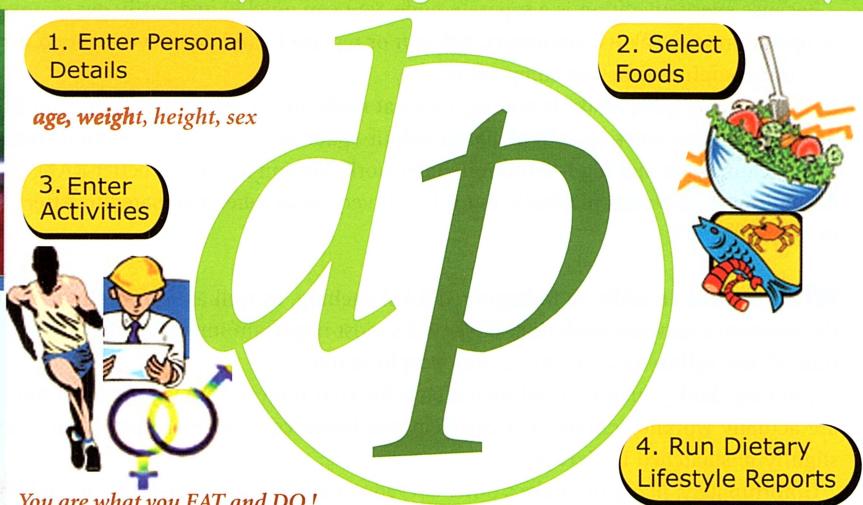
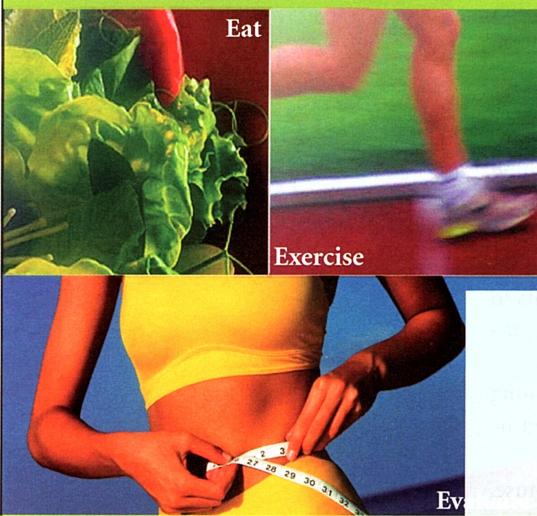
The latest iMac G5s are a case in point. Yes, their G5 processors are faster, but not to a degree you're likely to notice without a stopwatch. The real value of this update lies in a series of welcome improvements to other system components, starting with more memory and the addition of AirPort Extreme and Bluetooth cards (these cards are no longer mere options).

In appearance, the new iMacs are indistinguishable from their immediate predecessors. The choice among configurations hasn't changed dramatically, either. The entry-level version has a 1.8GHz G5 processor (up from 1.6GHz), a 17-inch display, and a Combo drive (CD-RW/DVD-ROM). The midrange model has the same 17-inch display but a faster, 2GHz processor (up from 1.8GHz) and a DVD-burning SuperDrive. The high-end configuration includes a 20-inch display, a 2GHz processor, and a SuperDrive.

More of almost everything. Within this framework of continuity, however, you'll find plenty of changes that will improve your experience and maybe even save you money.

Double the memory. All three configurations now come with 512MB of RAM, up from 256MB; in other words, you no longer

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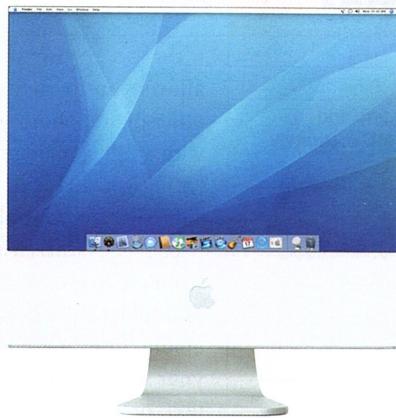
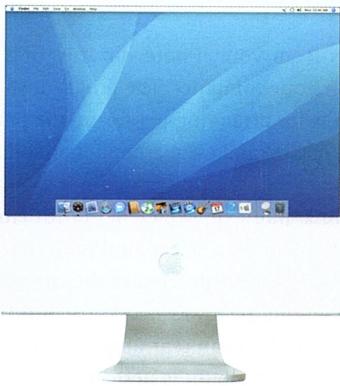
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need to spend extra money just to give OS X the memory it really needs. Apple was kind enough to put all 512MB on one DIMM, so if you want to add even more, there's still a free slot.

Bigger hard drives. The hard drives in the entry-level and midrange configurations have also doubled in capacity, from 80GB to 160GB, while the high-end model now has 250GB of storage, up from 160GB. As in the older models, these models' Serial ATA drives spin at 7,200 rpm.

Wireless built in. AirPort Extreme and Bluetooth are now standard in all three configurations. The Bluetooth module implements the latest standard, Bluetooth 2.0+Enhanced Data Rate (EDR), which few, if any, other manufacturers have adopted. Once the new Bluetooth begins to appear in new phones and other gizmos, it should mean faster data transfers, longer battery life for portable devices, and smoother operation when multiple devices are connected simultaneously.

Double-layer SuperDrives. Like the new Power Mac G5 models, new iMacs with SuperDrives can burn as much as 8.5GB of video or other data onto a double-layer DVD+R disc, compared with a maximum of 4.7GB onto conventional (single-layer) recordable DVDs. Put another way, one double-layer disc can hold about 3.5 hours' worth of MPEG-2 video, compared with a single-layer disc's 2 hours.

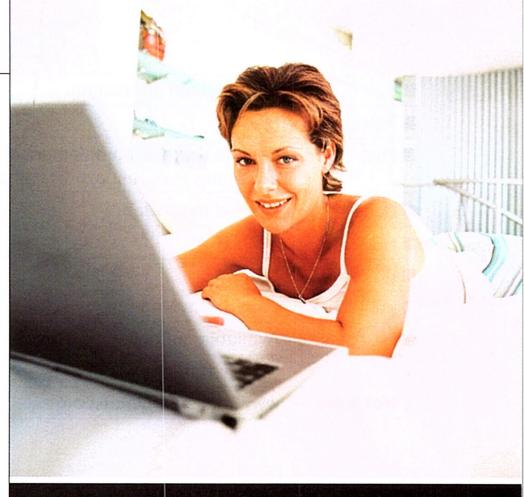
Improved graphics cards. In all three iMac configurations, the ATI Radeon 9600 graphics processor with 128MB of video memory – the same card that's now standard in some Power Macs – has replaced the card used in last year's iMacs, the Nvidia GeForce FX 5200 Ultra. We didn't notice the difference in routine use, but gamers will certainly appreciate it: in our Unreal Tournament frames-per-second test, the new iMacs handled significantly more frames per second than the old models.

Faster networking. All three iMacs now support Gigabit Ethernet, as well as the 10- and 100-megabit-per-second wired protocols supported by the older models. Most routers and switches for home users – including Apple's AirPort Express and AirPort Extreme Base Station – still don't support gigabit operations, but if you've got one that does, you'll be able to move files around your local network much faster than before.

Not perfect yet. Unfortunately, Apple hasn't fixed the few design drawbacks we found when we first looked at the iMac G5 last year. It's still not as easy to adjust the display as it was with the dome-base iMac G4 – in particular, there's no way to adjust the display's height. And even though Apple has given the Power Mac line convenient front-panel connectors for headphones and USB and FireWire peripherals, it still hasn't brought this innovation to the iMac.

It may be worth noting that, according to anecdotal evidence, the iMac G5 in its original incarnation appears to have suffered more than its expected share of hardware problems – online forums, including Apple's discussion area, include quite a few reports of failures; many of them describe bulging or even leaking capacitors on the logic boards. If this is true, let's hope the new models turn out to be more reliable than past models.

Australian Macworld's buying advice. No single change in the latest iMac G5s is earthshaking, but together they add significant value to a series that was already quite appealing. For people who can afford a little more, the high-end configuration, with its vast screen, roomy hard drive and double-layer SuperDrive, is again the pick of the litter. ☺



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■ Type	Photo album application
■ Rating	3 1/2
■ Pros	Easy to use; full complement of photo editing and arranging features; exports albums to HTML accurately
■ Cons	Limited templates
■ OS X	10.3, 10.4
■ RRP	\$US30
■ Publisher	SmileOnMyMac
■ Distributor	Available online
■ Reviewer	Jeffery Battersby
■ Hot links	www.smileonmymac.com

PhotoPrinto 1.2

Turns your digital photos into printable memories

YOU have 200 digital pictures of your most recent vacation sitting on your hard drive. How do you show those photos to your friends? You can plop your friends in front of your Mac and fire up an iPhoto slideshow, you can have your photos printed, or you can use SmileOn MyMac's PhotoPrinto 1.2 to create and print a personalised photo album almost instantly.

PhotoPrinto isn't an iPhoto replacement – there aren't any tools for organising your photos, and it lacks photo-editing features such as red-eye removal. It's a digital scrapbooking tool that

allows you to create albums from your iPhoto libraries or any other digital photos stored on your computer. The program ships with a full complement of tools for arranging photos on the page, letting you add text, borders, masks, and even cropping or adding soft edges to your photos.

You can start with a blank page or select a PhotoPrinto template to create your project. You then select an iPhoto library or a folder full of pictures, and PhotoPrinto creates the complete album, inserting photos and adding pages as necessary, until all your selected photos are included. You can rearrange photos, add text, or edit your pictures until your album is perfect. Then, just print the album or export it to HTML for posting on the web – a feature that worked great.

If PhotoPrinto has a weakness, it's a lack of multi-page templates, which really should be one of the program's crowning features. It ships with more than 30 templates, but most of them are single pages on which you can place photos of varying sizes. While a little ingenuity can easily resolve this issue by creating some of your own templates or placing graphics, the program's templates added more fluff than value.

Australian Macworld's buying advice. PhotoPrinto 1.2 is a well-designed, easy-to-use application that makes quick work of creating albums from your digital photographs. The program lacks quality templates, but if you don't mind tweaking your design, templates won't be necessary for you to create albums of all your digital memories. 

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■ Pros	Easy grabbing and pasting; excellent implementation of hot keys; Address Book integration; Palm, iPod, and .Mac synchronisation; lets you add or browse notes without launching the program
■ Cons	Minor interface annoyances
■ RRP	\$70
■ Publisher	Chronos
■ Distributor	Pica 03 9388 9588
■ Reviewer	Robert Ellis
■ Hot links	www.chronosnet.com

StickyBrain 3.4

Fast and easy-to-use, puts data at your fingertips

STICKYBRAIN is a freeform information manager modelled loosely on a filing cabinet. In this filing cabinet, nothing is ever lost or forgotten. With its recently added features and enhancements, StickyBrain 3.4 could be the perfect place to store your notes, stickies, clippings, passwords, receipts, and reminders.

The StickyBrain Viewer window is a cross between Mail and Safari. Like Mail, StickyBrain organises information into folders and subfolders that are displayed in a drawer. Like Safari, StickyBrain lets you view information in individual floating windows or in tabs. You control the appearance: you can select different icons for folders; set a background colour, texture, or image for a note; add a calendar; add a checkbox in any of eight styles; or select from three window styles, including a Sticky-like window style with adjustable transparency.

When you search, StickyBrain displays a list of matching entries and highlights matching search terms, so you'll always find what you're looking for. Attach an alarm to a note and you'll never forget anything important (you can even add a note with an alarm to a contact from your Address Book).

Getting information in and out of StickyBrain is a snap. Import text or RTF (Rich Text Format) files, other StickyBrain files, or Stickies. A new Image Browser lets you drag and drop clip art from Chronos' SOHO series programs (Business Cards, Labels & Envelopes, and Art Pack) and images from your iPhoto library. You can export one or more notes as individual files or a combined plain text or RTF file, and StickyBrain can synchronise with your .Mac account, Palm OS device, or iPod.

The best thing about StickyBrain is everything you can do with it even when it isn't running. For example, you can create a new note on the fly by invoking the QuickNote window with a hot key, or browse or search within notes by selecting the FlashNote window from the menu bar. You can grab text from other applications by highlighting it and pressing a hot key, or by selecting StickyBrain from a contextual menu or the Services menu.

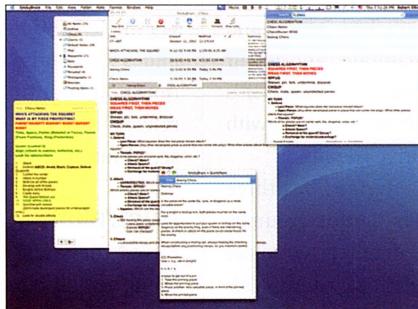
As much as I love StickyBrain, a few things about the interface bother me. There's no Trash folder, as there is in Mail, so you can't retrieve a deleted note if you have second thoughts. Creating a note always opens a new window, even though you can edit a note inside the Viewer, and StickyBrain automatically saves new notes if you close the window; it doesn't ask if you want to save. The FlashNote window isn't resizable, and the QuickNote window doesn't let you select the destination folder for each note (it sends notes to the Unfiled folder by default).

Australian Macworld's buying advice. StickyBrain 3.4 may be the ideal freeform information manager, especially if you need something that excels at capturing information from other applications and putting it at your fingertips. 

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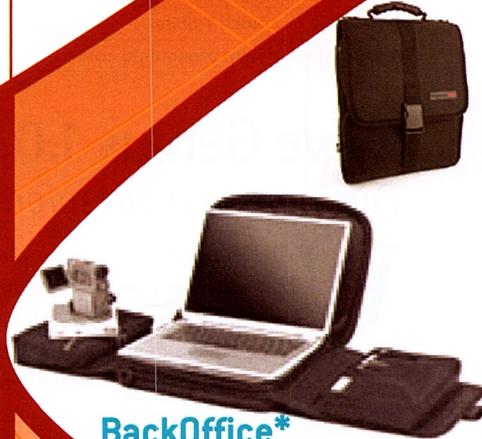
Stickies plus more. Add a note with QuickNote (bottom), or browse and search with FlashNote (upper right).



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■ Type	Utility software
■ Rating	4 1/2
■ Pros	Expansive tool set performs a variety of maintenance and repair tasks; can partition your hard drive on the fly; well-designed user interface; easy to use
■ Cons	Moderately fragmented hard drives can take hours to defragment; serial number required to boot from program CD
■ RRP	\$175
■ Publisher	Prosoft Engineering
■ Distributor	MacSense 02 9798 3288
■ Reviewer	Ross Tibbits
■ Hot links	www.prosofteng.com

Drive Genius 1.0.1

Partitions without reformatting

WITH Norton Utilities for the Mac gone but not forgotten, Mac users have relied upon Micromat's Tech Tool 4 and Alsoft's DiskWarrior 3 to manage, maintain, and repair their hard drives. Prosoft Engineering has incorporated SubRosaSoft's VolumeWorks, CopyCatX, and DiskGuardian applications, along with some new features, into an application called Drive Genius.

Drive Genius' slick-looking brushed-metal interface has three panes: One lists your Mac's devices and drives and/or volumes and partitions; another displays your drive's detailed technical specifications, and a third contains a formidable tool palette with ten disk-management tools.

Select either a hard drive or one of its volumes to duplicate or edit a volume, shred data, launch an integrity check, obtain benchtest results, or scan your drive for bad blocks. Furthermore, you can initialise and repartition your hard drive while volumes are being repaired and defragmented.

Drive Genius features unique initialisation, duplication and backup, and partitioning tools. The Duplication/Backup tool performs a device copy rather than a block-to-block copy of your drive, which means that the copy retains intricate details like icon placement and disk permissions. I especially liked the Partition tool because it lets you reallocate drive space without erasing or losing data. Simply chose a device, click the Resize icon, select the amount of drive space you want in the partition using a slider control, and click the Start icon. Seconds later, you have a partitioned drive.

On the down side, Drive Genius can take hours to defragment a drive. Booting up my dual-processor 1.42GHz Power Mac G4 via the Drive Genius CD took a seemingly interminable 4 minutes and 35 seconds, and you must re-enter the serial number each time you boot from the CD. Prosoft says that its Tiger-compatible release of Drive Genius will eliminate the need to punch in a serial number every time you boot from the disc.

Australian Macworld's buying advice. Prosoft has raised the standard for disk utilities. The program's ability to initialise and repartition your hard drive while volumes are being repaired and defragmented makes up for its few flaws. 

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■ Type	Emulation software
■ Rating	★★
■ Pros	Bargain price; seamless printing
■ Cons	Slow performance; poor Mac integration; limited window size; poor multimedia performance; no USB support
■ OS X	10.3 (Doesn't support networking in 10.4)
■ RRP	\$US70 (Does not include a copy of Windows)
■ Publisher	Lismore Software Systems
■ Distributor	Available online
■ Reviewer	Robert Ellis
■ Hot links	www.lismoresystems.com

Guest PC 1.2

Lags in performance, but is still a bargain

L IKE Microsoft's Virtual PC, Guest PC 1.2 lets you run a virtual Windows computer on your Mac. At almost half the price of Virtual PC 7, some users will find it a money-saving way to run the occasional Windows program.

To compare the two emulators' performance, I created virtual machines in both programs with identical configurations running Windows XP Home Edition, then ran a battery of Windows performance benchmarks. Virtual PC outperformed Guest PC across the board, but neither program offers much speed. It's like watching a race between a tortoise and a turtle – one of them will win, but it's not a very exciting event.

Guest PC does a fair job of running Windows on your Mac, making it easy to test your web site on Windows or indulge in the occasional game of Solitaire.

I did encounter some problems with Guest PC. Audio files skipped, crackled, and hissed. Windows Media Player stuttered and screeched when I tried to play a movie clip (Virtual PC also struggles with multimedia files). The company says these issues should be fixed in the next version.

Guest PC lacks some important features available in Virtual PC. There's no support for USB devices (the company says it's coming in a future version). If you want to share information between your virtual PC and your Mac, Virtual PC offers seamless copy and paste (and drag and drop) between them, while Guest PC requires you to set up Windows Sharing to share a folder with your Mac. Virtual PC has a Fast Save feature that automatically saves open files and puts your virtual PC to sleep when you quit the emulator. To quit Guest PC, you first have to shut down and then turn off your virtual computer.

The Guest PC window is limited to 1024×768 pixels in 16-bit colour; Virtual PC supports 1920×1200 pixels in 32-bit colour. You can drag to resize the Guest PC window, but it doesn't resize your Windows desktop (you'll get scrollbars instead).

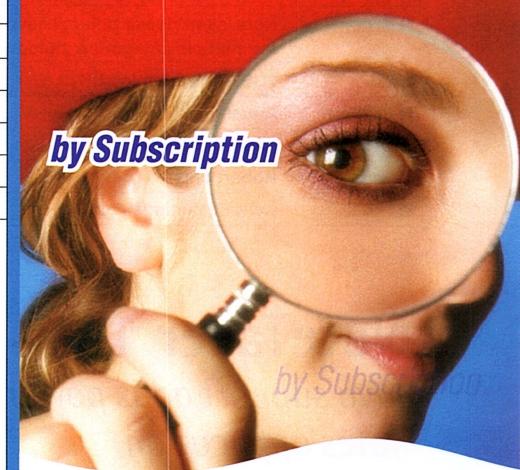
Guest PC requires a G3, G4, or G5 processor running OS X version 10.3 or later. It will run on Tiger, but currently does not support networking (Lismore says this will be fixed in an update that should be released by the end of May). You'll need 2GB or more of hard-disk space and a decent amount of RAM (256MB or more; but I wouldn't recommend running it with less than 512MB devoted to Guest PC). You'll also need your own copy of Windows (any version).

Australian Macworld's buying advice. Guest PC 1.2 lags Microsoft's Virtual PC 7 in polish and performance, and if you can afford it, Virtual PC 7 is worth the premium. If you have more patience than cash, Guest PC is an inexpensive way to run the occasional Windows program and will do a passable job for almost half the price. 



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■ Type	Notebook application
■ Rating	4 1/2
■ Pros	Java applet support; AppleScript support; Flash support; integrated web browsing; flexible hyperlinking; free NoteTaker Viewer; usability improvements
■ Cons	NoteTaker Viewer doesn't save Java data; still no support for multiple categories; outdated documentation
■ RRP	\$US70; Academic \$US40
■ Publisher	AquaMinds
■ Distributor	Available online
■ Reviewer	Robert Ellis
■ Hot links	www.aquaminds.com

NoteTaker 1.9.4

Java support adds power to flexible notes application

LIKE Circus Ponies' NoteBook, AquaMinds' NoteTaker uses a spiral-notebook metaphor for note taking, outlining, and clipping information from other applications, such as your web browser. NoteBook's polished interface, multiple categories (NoteTaker still only lets you assign one category per note entry), and ease of use give it the edge in user-friendliness, but the latest version of NoteTaker offers an assortment of enhancements that should appeal to power users.

NoteTaker's most promising enhancement is its new Plug-in Component Architecture, which supports embedded Java applets. Now, you can run a Java applet from the web simply by typing the applet's URL in a note and double-clicking the link. NoteTaker won't save the applet's data in the notebook without modifications, but if you can program in Java, you can easily modify existing applets — or create custom ones — and attach them to a notebook. They'll run inside pages and persist after you quit NoteTaker, saving their data (unfortunately, you can't save applet data in the free NoteTaker Viewer, which lets you view notebooks without owning NoteTaker and would be perfect for distributing custom applications). AquaMinds provides a handful of demonstration plug-ins, including Calc (a bare-bones calculator), DBquery (a database viewer), SketchPad, Table (for creating text-only tables), and VisualMap (for creating dynamic maps of a notebook's content). You'll need lots of RAM to handle the plug-ins, though. AquaMinds recommends at least 512MB. You'll also need OS X 10.3 or higher and Java 1.4.2 or higher.

NoteTaker has always been scriptable (this version brings the number of included AppleScript scripts to more than 50), and adding Flash plug-ins is as easy as drag-and-drop.

NoteTaker supports basic web browsing. You can browse web pages embedded in entries or floated in their own windows, but when you create a new browser entry, the window is so short that you'll almost always have to enlarge it,

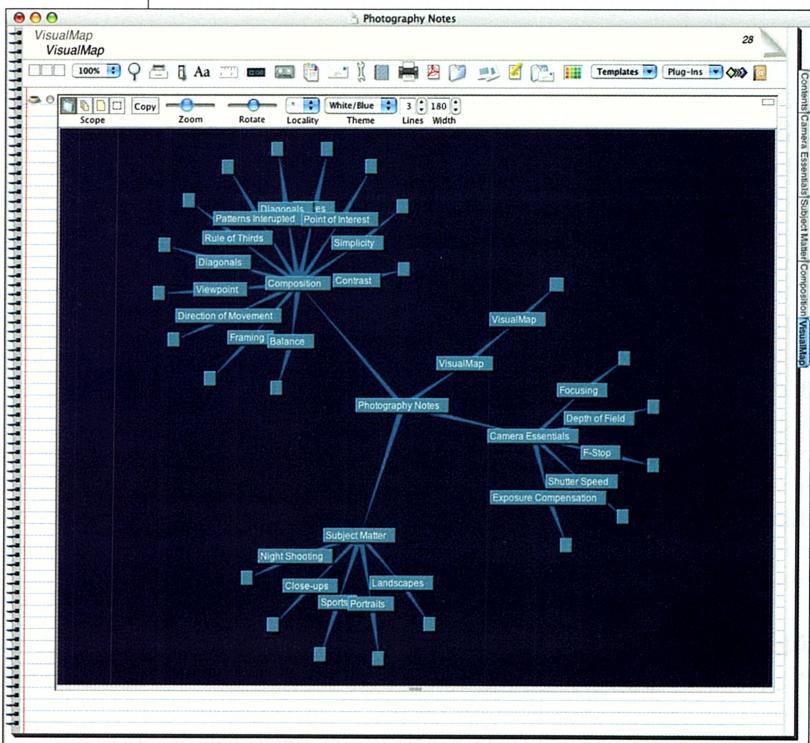
and there's no preference to change the default size. You can't search within web pages inside NoteTaker, but a new MegaSearch script scours four search engines (Google, MSN, Teoma, and Yahoo) and populates your notebook with pages of results. This is useful for research, but it creates a new page for each entry (as well as a Summary section with a single page listing the top 10 results from each search engine), and then you have to resize all of those embedded browsers.

This version also introduces a number of usability improvements. Highlight & Summarize creates more flexible search reports within a notebook. A new Hyperlink Panel makes it easier to manage links to URLs or external files, footnotes and endnotes, voice memos, and AppleScripts. A special X-Ray View displays the content or target as you hold the Option key while mousing over the link.

NoteTaker has always been a powerful and flexible application, and this version offers more options than ever. That's NoteTaker's strength — and its main weakness. It can be overwhelming at times. If something doesn't work as expected, you've probably overlooked a preference somewhere. AquaMinds offers an excellent user guide, but it's dated 2003 (AquaMinds says an updated version should be available by August). A What's New notebook, available from the Help menu, is essential reading.

Australian Macworld's buying advice. Students, educators, researchers, developers, and Mac power users should appreciate NoteTaker's new features, especially the Java applet support. If you're looking for more elegant and less expensive (albeit less brawny) note-taking software, you should also consider Circus Ponies' NoteBook. ☐

Can your ring-binder do this? NoteTaker's new Plug-in Component Architecture lets you embed Java apps, like this VisualMap plug-in, inside your notebooks.



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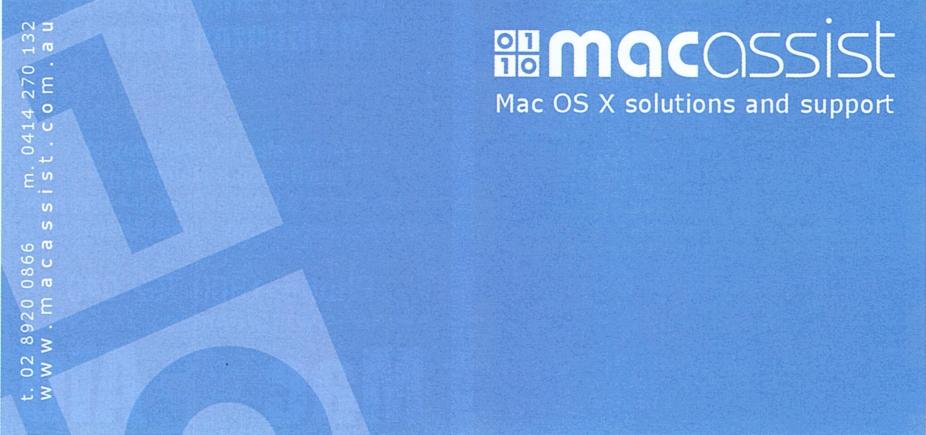
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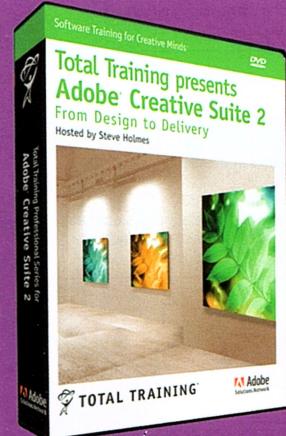


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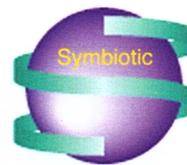
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By Alex Rieneck.

Something to chew on.

**Hot Links**www.napoleonguide.com

Where were the good seats at Waterloo?

www.copyright.gov/circs/circ1.html

All you need to know about US copyright law

www.copyright.org.au

All you need to know about Australian copyright law (it's not the same thing, yet)

www.creativecommons.org

A more flexible approach to copyright

The same old story

It isn't well known but at the battle of Waterloo there were hundreds of sightseers planning to eat their packed lunch and watch the big battle between the forces of civilisation and the forces of the other lot. During the battle, one group were actually politely asked to move from their perch on top of a hill because the Duke of Wellington was of the opinion that the hill was going to be fought over in the very near future.

Over the last year or so I have felt rather like those people on that hilltop. You see over the last couple of years, there has been this huge tooth and claw sort of battle taking place, and I have managed to remain an almost completely uninvolved observer, watching the battle churn its participants into the farmlands. It has occasionally been funny, but has never been pretty.

Down on the front line are the rank and file members of the Music is Free army fighting tooth and nail with anyone who attempts to stand in the way of their wholesale music-swapping-for-nothing activities under the banner "Copyright is Theft". As an army they charge hither and yon up one hill and down another attacking anyone or anything that seems to be showing any signs of looking at them funny. In the tradition of *Braveheart* (available via BitTorrent) they may lack important social skills, but they make up for that with a fanaticism that only stops with their deaths.

Massed against them are the black-cloaked armies of the Forces of Copyright who take well-publicised prisoners and hold musicians in their thrall. Using powers akin to witchcraft they make some musicians crazily rich and protect them to the death. The vast majority, however, they high-handedly sentence to a lifetime of waiting tables in pizza restaurants for slave labour wages. Some say that they do their fight more harm than good, but their powers are terrifying, and, it is rumoured, they drink blood.

Directly behind the front line are the massed armies of lawyers cooking up large and evil bombs, which they lob hither and thither across the battlefield into the fray. When these bombs go off, the giblets rain from the sky and the rank and file indulge themselves in much teeth-gnashing and vociferous jubilation as they beat their pots and pans and make a horrible noise (available as a free legal creative commons download).

Dotted over the battlefield are shops filled with fat, blood-filled retailers who can reliably be expected to flap their white aprons and



have hysterics whenever anyone asks them anything about anything. All of them have hundreds of children, and the photos to prove it, but no-one pays any attention to them unless they want to prove the other side commits atrocities. Hysterical shopkeepers make good copy. Everyone knows that.

Everywhere, all over the battlefield, are the journalists. As everyone knows, journalists live in holes in the ground, and pop up like gophers now and again, to throw huge bombs at one side, or the other, as the mood takes them. These bombs drive the people that they hit into redoubled levels of violence and fury, while the journalists retreat into their holes to snicker to themselves, and eat nuts.

At the edge of the battlefield are the vast factories, which turn common beach sand into the weapons for the fray. One way or the other, they will sell their weapons to anyone who wants them. The weapons of both sides contain components from the same manufacturers. They don't care what their stuff gets used for, but they love that money.

Far away over the hills are the controllers of the battle, the actual generals and their masters. As such people have done since the beginning of time, they live the good life, and pay attention to business in between meals of the finest quality served on the best quality loot that the efforts of their armies can obtain. If a battle is won decisively one of their number may vanish from the table, to be replaced by some brusque new guy, fresh from the fray, smelling of blood and mud. It won't matter to them. Everyone loves quality dinnerware and everyone learns how to conduct themselves at table soon enough.

Relatively recently, a fiendish new weapon has been appearing on the battlefield. It is small and, usually, white. By and large, those who wield it don't take one side or the other but a new side all of their own as they wander, deaf to everything, hither and thither over the battlefield, listening to the beat of a wholly different drum. Their presence looks really bad for the other two sides. They may well kill and eat each other out of rage.

It is obvious that it will be musical chairs at the generals' trough pretty soon, but I won't really mind. I am not a very musical type person. ↗

Alex Rieneck has been a technology commentator since the days of the bone abacus.

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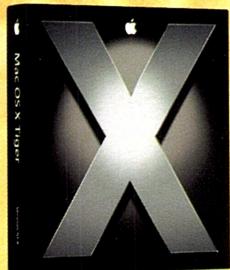
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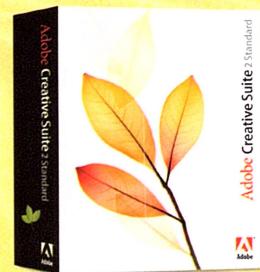
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